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MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Commercial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

Vol. 66
No. 26

ESTABLISHED 1882

\$4.00 Per Year
Single Copy 15 Cents

MORE than twelve pages in this issue are filled with letters from representative manufacturers and other men in productive lines discussing the conditions of material affairs in this country, the causes of them and the immediate prospects for domestic and foreign trade.

BALTIMORE, DECEMBER 31, 1914

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Clinchfield Coal Corporation
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Specially designed for rapidly and accurately punching armature disks for small motors and generators. From 6000 to 10,000 complete disks per day may be punched in this, when set in inclined position.

We build machinery for the economical manufacture of all sheet-metal electrical parts.

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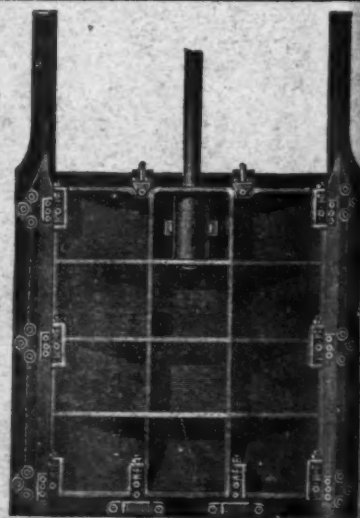
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ASK FOR A SEWER PIPE PRESS, DRY OR WET PAN, OR OTHER CLAY-WORKING MACHINERY, AND THERE IS NO TELLING WHAT YOU WILL GET.



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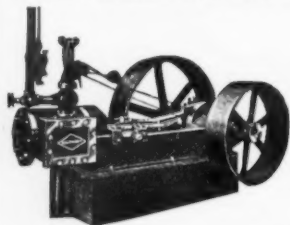
Our catalog No. 29 tells about it. The balance is told by 125 different, well-satisfied users, in the territory above described.

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SOUTHERN ENGINE & BOILER WORKS

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Steam Turbines	Electric Generators
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Combined contracts for complete power units with undivided responsibility insure satisfactory service

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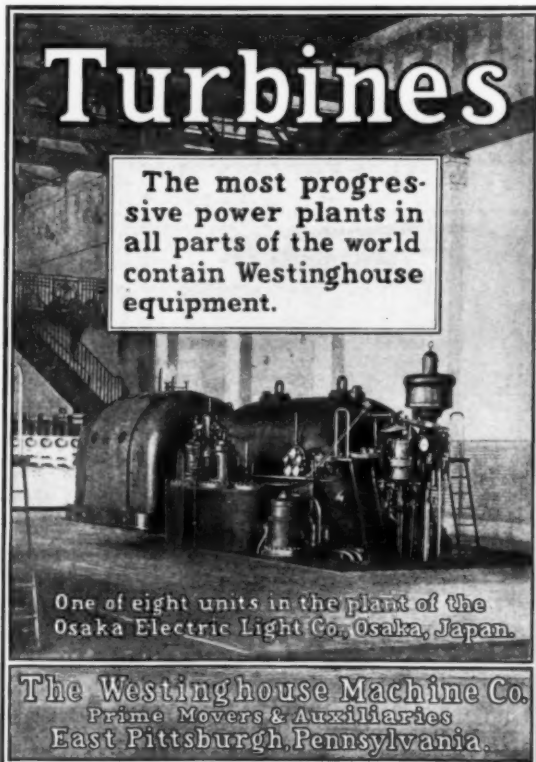
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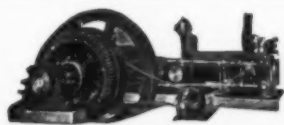
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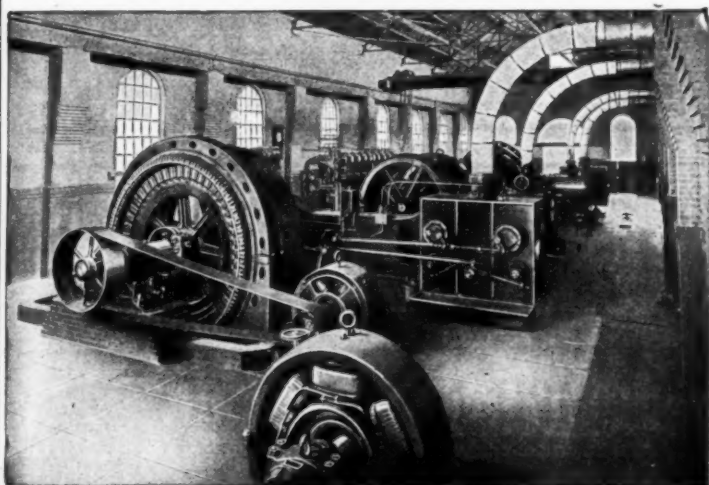
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When you buy a Ball Engine you buy **reliability**. Is that the kind of an engine you want? Then write us

Engines built in several types to meet a variety of requirements.

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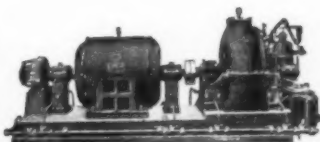
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Terrys are perfect in every respect—absolutely reliable and built for hard continuous running.



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HILL'S Gas and Electric FIXTURES

Fixtures in all the latest designs for residences, offices, apartments, etc. It will pay you to get our catalog and prices before buy.ng.

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are mechanically correct in design and workmanship, and are the result of seventeen years' experience in Engine and Dynamo building.

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You are not buying an experiment when you get one of our boilers. It was proved that it is unquestionably without an equal as a steam producer. Free from objections common to the general run of boilers. Constructed by expert workman of

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Electrical Equipment, Wiring Supplies, Fixtures
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Pumps, Heaters, Injectors, Engine Supplies, and Repairs for Mills, Hotels, Public Works. Try

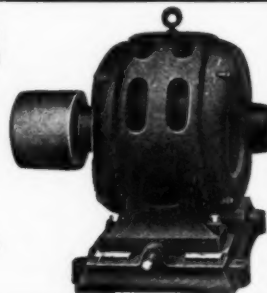
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Reduce expense and increase output.
Power when you want it, where you want it and as you want it.

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WATER TUBE STEAM BOILERS

STEAM SUPERHEATERS

WORKS—BAYONNE, N. J.

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Our product is the result of 50 years
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Stand Pipes, Self-Supporting Stacks, Tanks, Towers, all kinds of Structural and Plate Iron
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Marine
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Special Plate and Tank Work. Offices—No. 443 Boliver Street, New Orleans, La.; Praetorian Bldg.,
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LOOKOUT BOILER & MFG. CO.

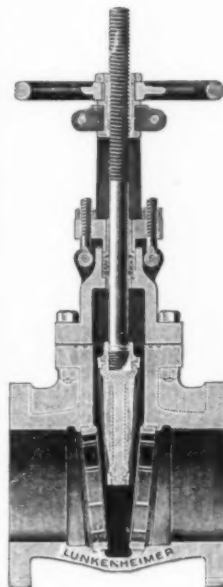
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PORTABLE AND HORIZONTAL TUBULAR
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MANUFACTURERS OF HIGH-GRADE
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Write us for Prices before placing your order.

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"Victor" Gate Valves



Made in Medium and Extra Heavy
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Bronze Mounted Patterns, and in "Pud-
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Complete line of Lunkenheimer High-
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Oil Pumps, Oil and Grease Cups, Gas
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Your local dealer can furnish them;
if not, write us.

For a complete description of the en-
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THE LUNKENHEIMER CO.

"QUALITY"

Largest Manufacturers of High Grade
Engineering Specialties in the World
CINCINNATI, OHIO

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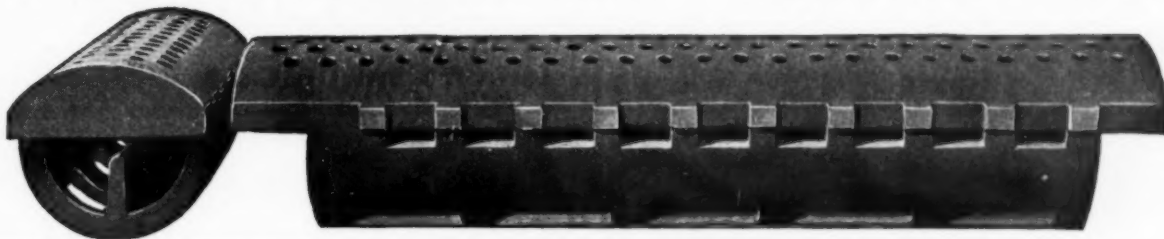
London

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Get Right Down to the Root of the Trouble in Your Power Plant

Is it caused by inferior grate bars? A large percentage of power plant troubles start this
way. Put your plant at its greatest possible efficiency and run it more economically with

THOMAS ELLIPTIC GRATE BARS



WOODWARD LUMBER COMPANY,

Augusta, Ga., July 22, 1912.

Thomas Grate Bar Co., Birmingham, Ala.:

Gentlemen—In reply to your favor of the 17th will say,
as you know, we have been buying our grate bars from you
for the last two years, using no other. We find them very
satisfactory, so much so that we have ceased to listen to
the arguments of the manufacturers of other grate bars.

Yours very truly,

WOODWARD LUMBER CO.,

(Signed) J. C. Lee, Prest.

Read this Letter from one user

It is only one illustration of the satisfactory results
obtained with these up-to-date grate bars. We
have hundreds of others showing just as good
results. Thomas Elliptic Grate Bars are self-
cleaning and economical in the use of fuel.

They have saved money for others and can for you.

Write us today for printed matter.

THOMAS GRATE BAR CO. BIRMINGHAM, ALA.

GULF REFINING CO.

—REFINERS OF—

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PETROLEUM

HIGH GRADE

Engine Gasoline
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OUR KEROSENE AND GASOLINE

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THE OTIS TUBULAR FEED WATER HEATER

Oil Separator and Purifier does not scale. The exhaust steam enters and leaves the heater at the top, passing inside of the seamless brass tubes, therefore the tubes cannot fill up with scale, as they do in other water tube heaters. This provides an oil separator and cool settling chamber in the bottom, where the sediment settles away from the tubes and remains soft mud until removed.

A manhole in the sides enables you to easily and quickly wash the heater out with a hose, or blow out the refuse through the mud blow in the conical bottom. Each heater tested at 200 lbs. hydrostatic pressure before it is shipped.

Illustrated Catalogue on Request.

The Stewart Heater Co. 3 Norfolk Ave. Buffalo, N. Y.

A Slip Joint Is Not Enough!

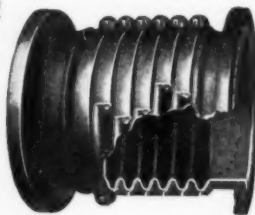
You install a slip joint to take care of the pipe expansion—but you must look after it—you must see that it is properly packed—it often leaks.

You install a

BADGER Self Equalizing Expansion Joint

and promptly forget it. It's always tight without any packing. It simply can't leak, for it is a single piece of copper with corrugations and distributing rings. The rings prevent bulging under great pressure and collapse in an exhaust pipe. Not one but many corrugations take up the change in pipe length. Not unsightly as is a bend or sweep. Takes no more space than a flange fitting. Send for new catalog.

E. B. Badger & Sons, 74 Pitts St., BOSTON, MASS.



GALENA-SIGNAL OIL CO.

FRANKLIN, PA., U. S. A.

Leading Railway Lubricating and Illuminating Oils of America

GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S
PERFECTION VALVE and SIGNAL OILS
are standard the world over

ELECTRIC RAILWAY LUBRICATION A SPECIALTY

Guarantee Cost

S. A. MEGEATH, President

Expert Service

Water Softeners and Filters

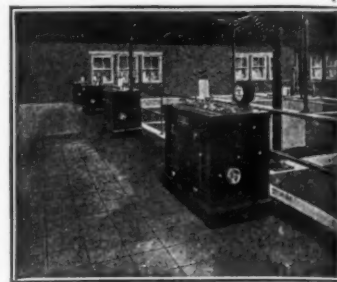
We build Filters and Softeners for
any purpose and of any capacity.

"A Laborer can operate them"

This cut shows the Operating Floor of Filter
Plant installed for city of Wilmington, N. C.

American Water Softener Co.

1019 Chestnut Street PHILADELPHIA



INTERNATIONAL FILTER CO.

FILTERS

CHICAGO

SOFTENERS

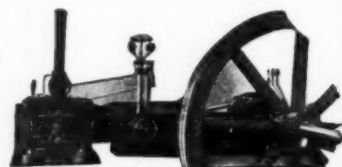
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ICE-MAKING AND
REFRIGERATING MACHINERY

Corliss Engines

Brewers' and Bottlers' Machinery



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High Grade Firebrick
and Fireclay Products.
MEXICO BRICK & FIRE CLAY CO., MEXICO, MO.

"Mt. Savage" Fire Brick

BRANDS:
"MT. SAVAGE" "REFRACTO"
"M. S. A." "CARBURETER"

Capacity 20,000,000 Per Year

Union Mining Co.

OFFICE AND WORKS:
MT. SAVAGE MD.

These Two Letters

are of special interest to
every Power Plant Operator

Berkeley Springs, W. Va., July 15, 1914.

Dear Sirs—Ten months ago I installed a Huber Hand Stoker. The problem that I had to meet at that time was that of capacity. After making a full examination of several makes of stokers and grates, I bought one of the Huber Hand Stokers from your firm.

I was pleased to get the increased capacity, but did not expect to find that with the increased capacity there would be, even then, a large saving in coal.

I have taken pleasure in advising my friends to install this device.
Yours very truly, W. A. ROCKWELL.

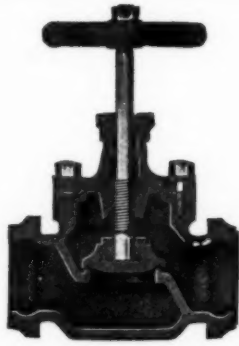
Berkeley Springs, W. Va., September 25, 1914.

Dear Sirs—I wrote you some months ago regarding the splendid saving in fuel which had come from the installation of the Huber Hand Stoker in my plant about a year ago. You will be interested to know that our output for September 23 was thirty-two per cent. greater than our best record with the other grates. I would not be without it for three times its cost.

Yours very truly, W. A. ROCKWELL.

Find out all of the advantages and economies of the
Huber Hand Stoker. Write today for complete data.

HUBER GRATE BAR & STOKING CO. 1114-16 E. Monument Street
BALTIMORE, MD.



York Ammonia Valves and Fittings

Are used more extensively than any other line—and for very good reasons—

They are guaranteed to stand all usual working pressures.

The line is complete.

The price is right.

Large stocks are carried at all times at the factory as well as by all our branches—insuring prompt delivery.

The success of York Valves and Fittings is due to the care exercised in their manufacture—from the testing of the raw materials to the stocking of the finished article.

A trial will convince you of their superiority.

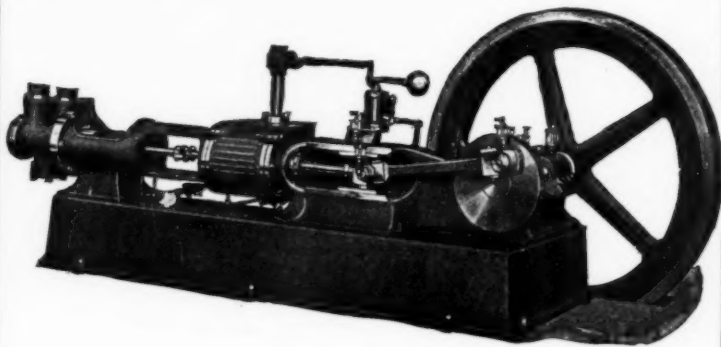
YORK MANUFACTURING COMPANY

(Ice-Making and Refrigerating Machinery exclusively)

YORK, PA.

SOUTHERN BRANCHES:

Atlanta St. Louis New Orleans Houston El Paso



Special Attention to Material

THE ABSORPTION ICE MACHINE

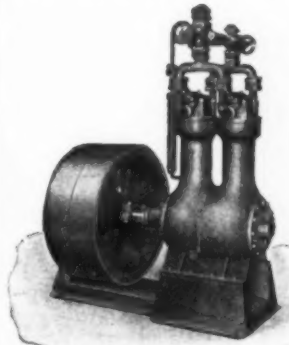
In considering the success of our Absorption Ice Machine, it is impossible to point to any particular feature as the sole cause of that gratifying success, but one thing is certain, and that is, the material used in the construction is one of the salient causes. Special attention is given its selection, and we can truthfully say that our machine is positively not excelled in this respect. Let us enlarge on this factor of success, and also tell all about the others.

Machines of any capacity - - -	{	Breweries, - - -
		Packing Houses, -
		Cold Storage Plants,
		Ice Factories, Etc. -

Henry Vogt Machine Co.

LOUISVILLE, KY.

BRECHT ICE MACHINES $\frac{1}{2}$ to 20 TONS



For Hotels, Markets, Hospitals, Creameries, Ice-Cream Factories, Florists, Public Institutions, Residences, etc.

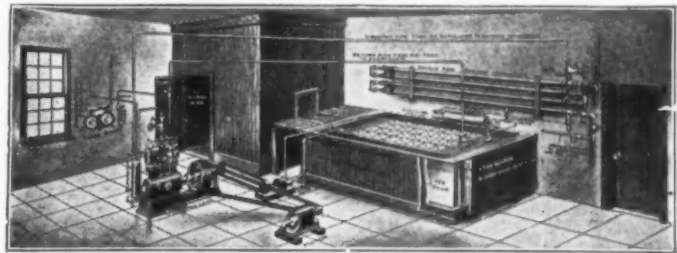
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Refrigerating and Ice Making Machines, Detroit, Michigan

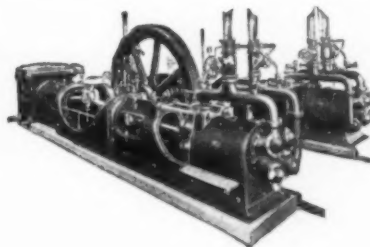
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All types of chains for Elevator and Conveyor work.

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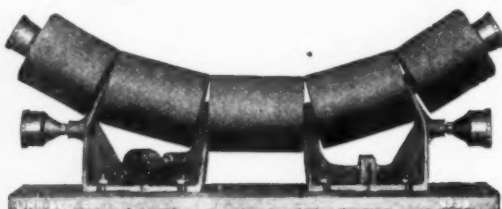


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Our catalog No. 79 shows our accomplishment in this line.

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Mounted on hollow shafts, as shown above, or with extra heavy flights mounted upon a solid shaft and with fittings to match.

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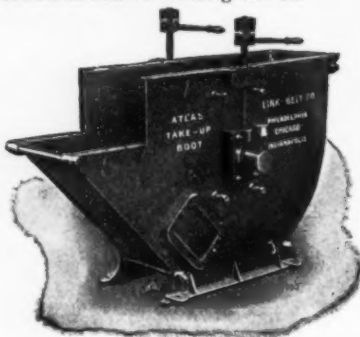
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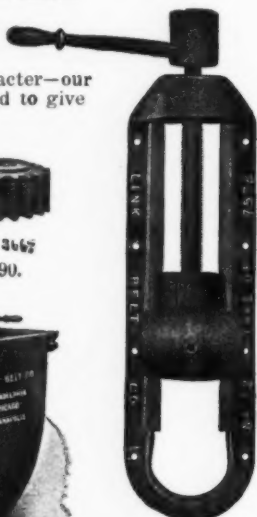
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Ground to fit all chains of standard pitch.

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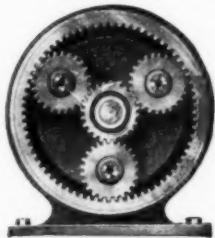
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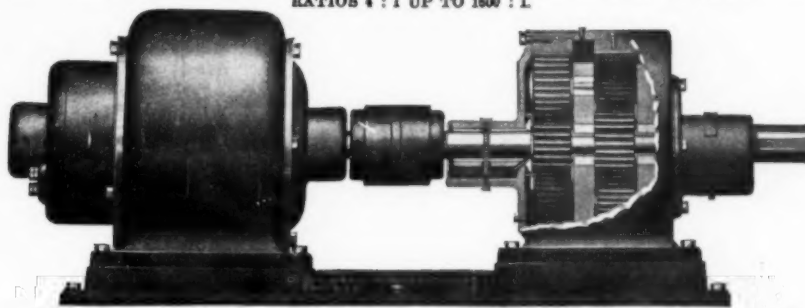
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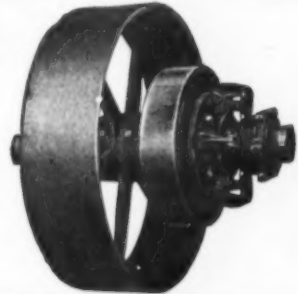


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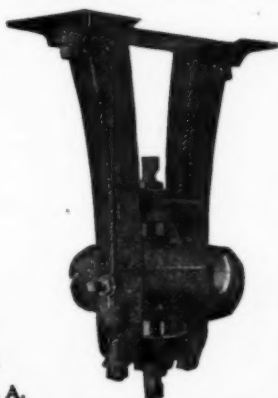
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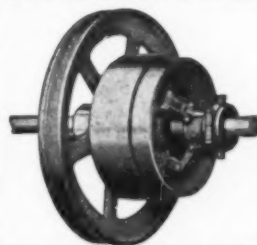
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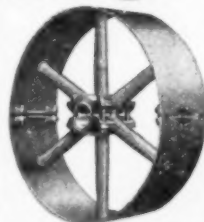
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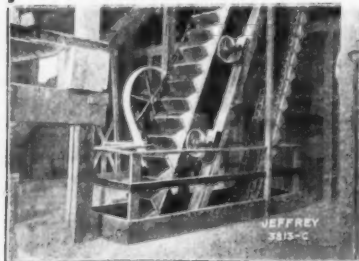
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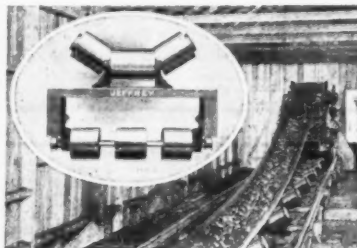
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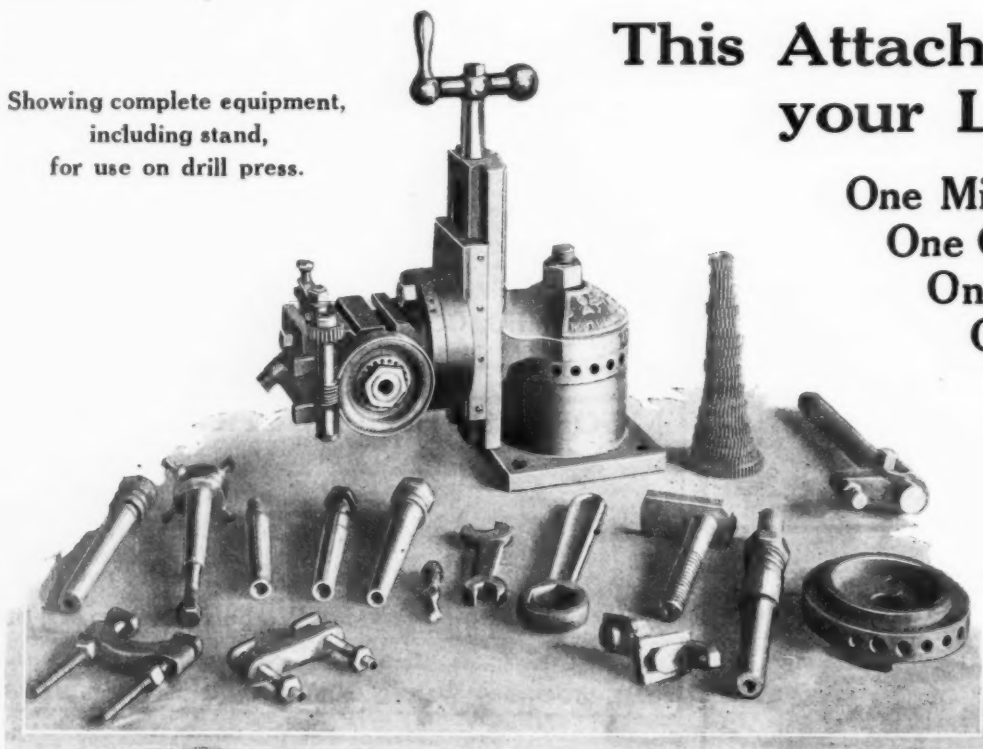
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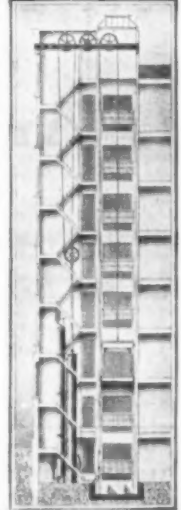


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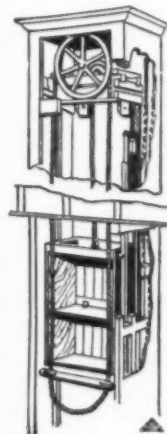
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is part of the equipment of all our Dumbwaiters. It will hold load at any floor. Our catalog describes it. Send us your specifications and let us figure them. Send for catalog now.

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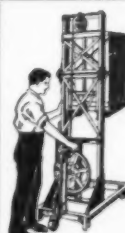
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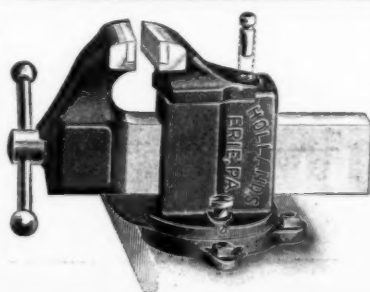
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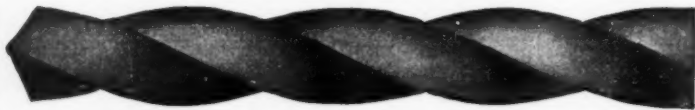
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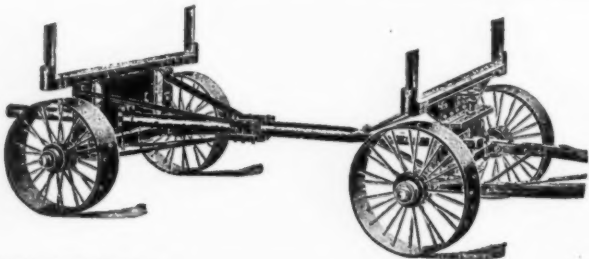
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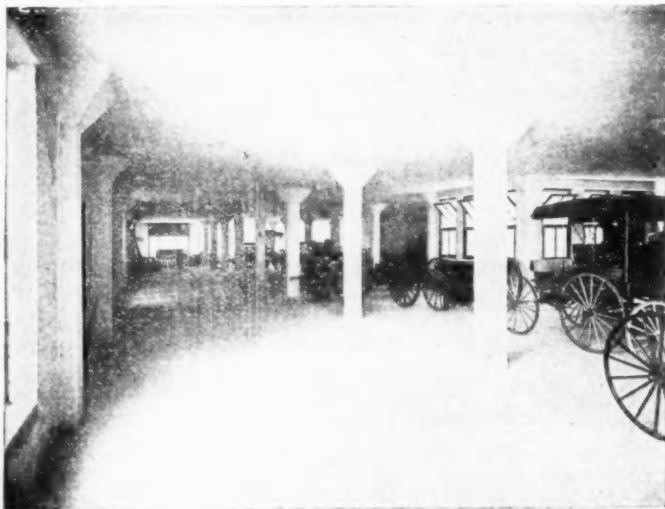


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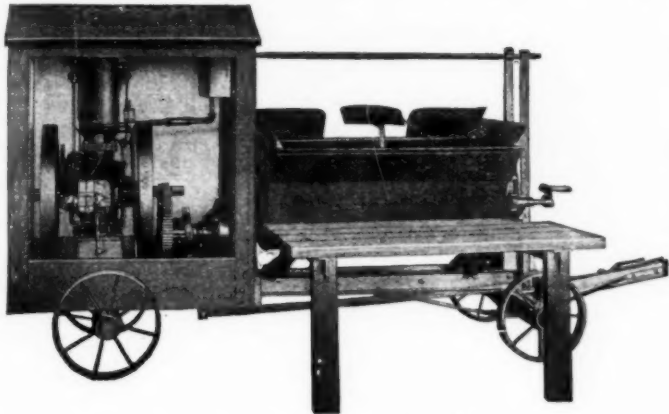
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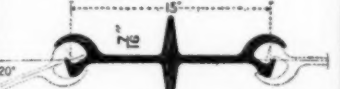
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Preferable where transverse strength of the pile is of primary importance, as in braced or tied constructions. A wall of this piling is very thin in proportion to its transverse strength, having no greater thickness over all at the centers of the arches than the over-all thickness of the interlocked joints. The arching of the web prevents distortion of the section in transmitting the load at the bearing on the waling timbers. Flattening the back of the web furnishes a long, straight contact with the waling timbers.

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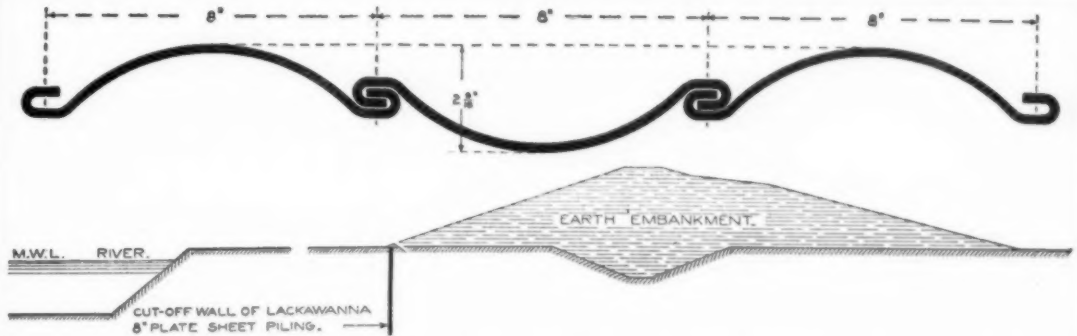


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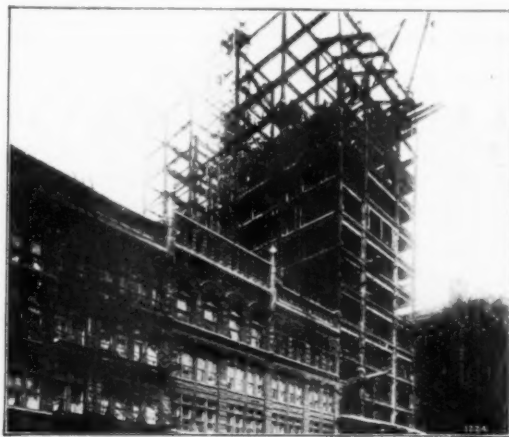
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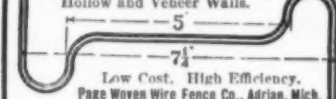
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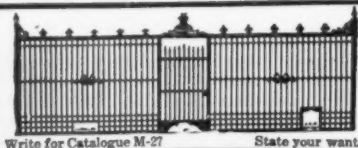


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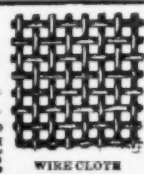
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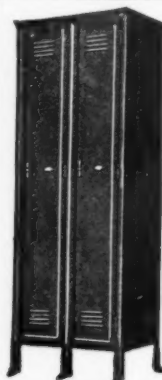


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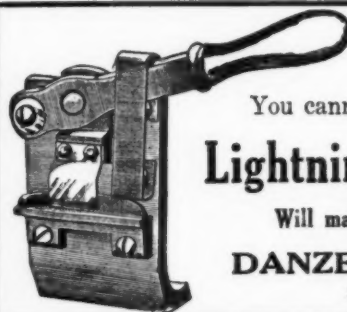
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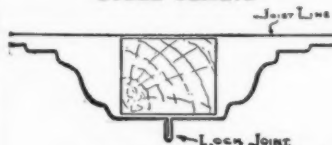
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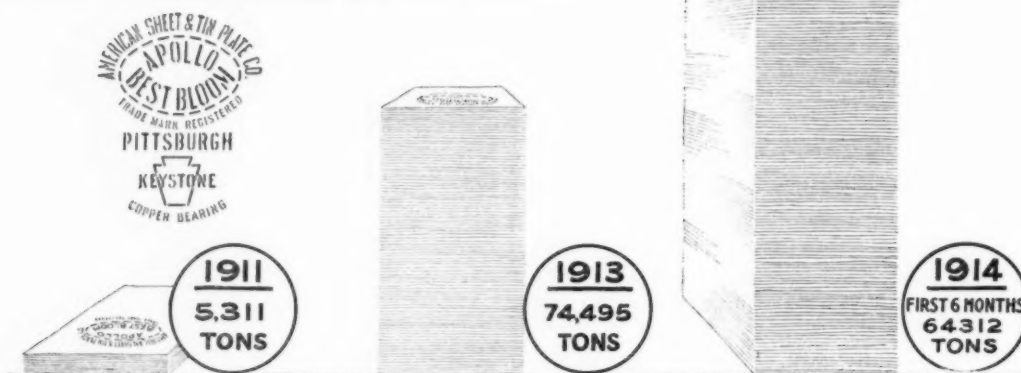
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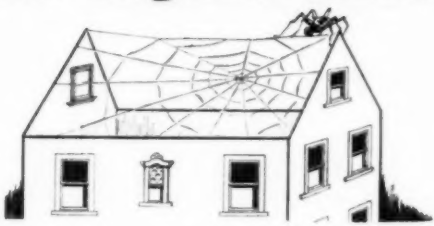
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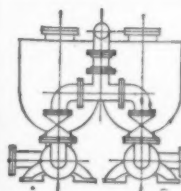
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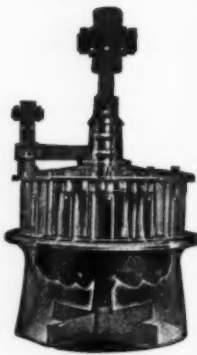
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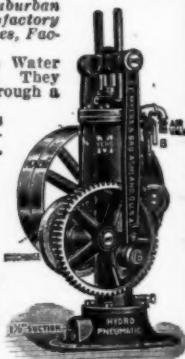
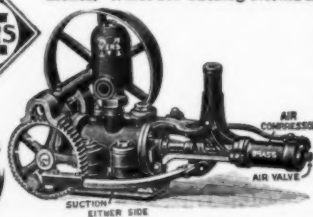
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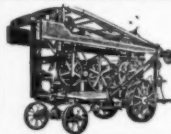
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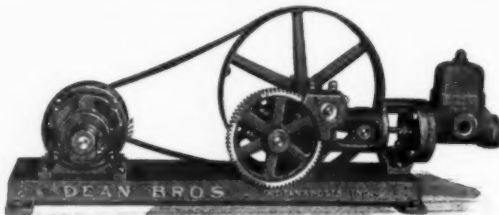
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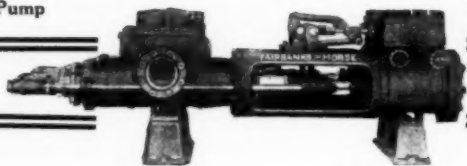


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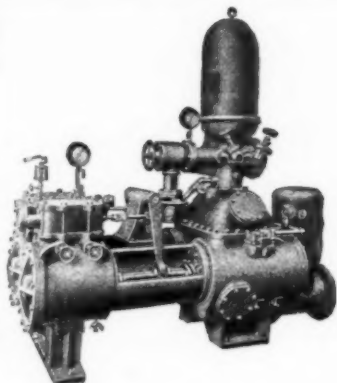
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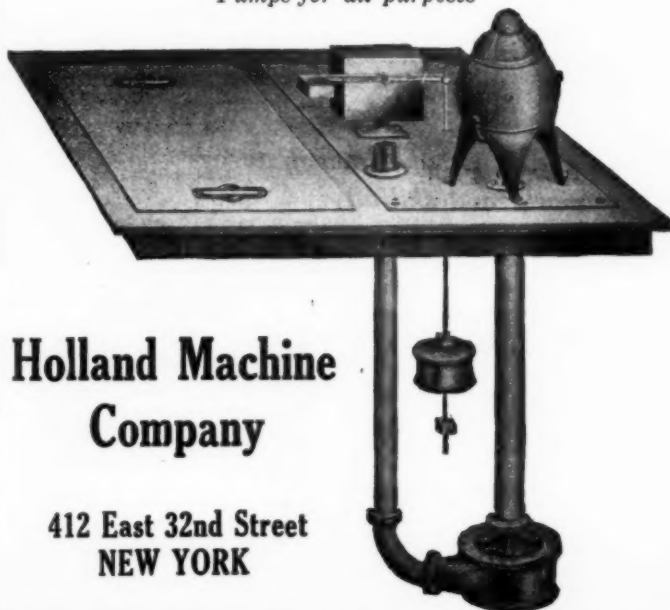
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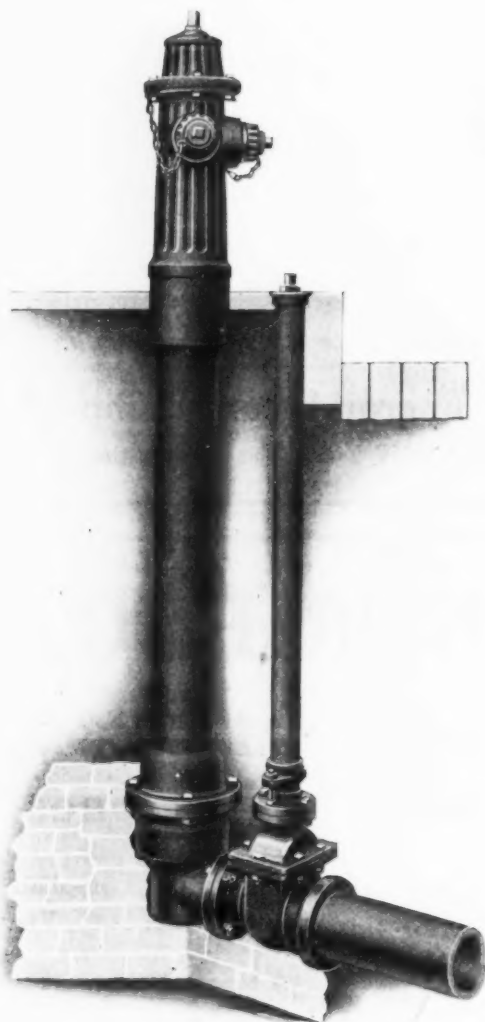
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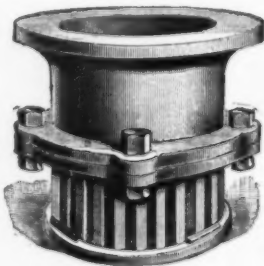
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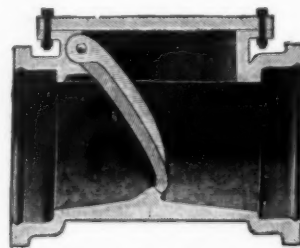
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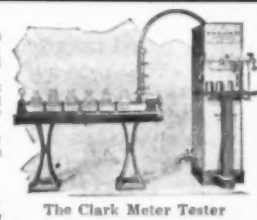
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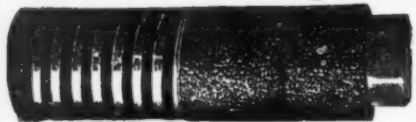
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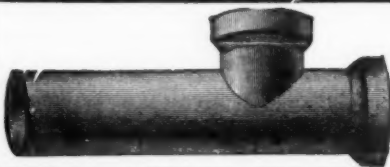
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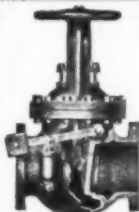
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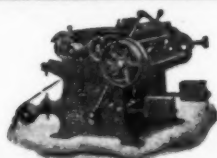


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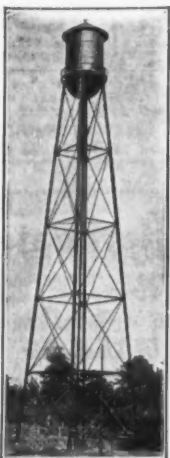
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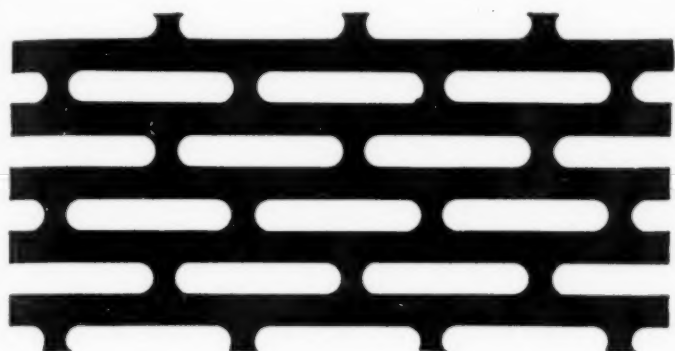
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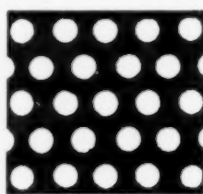
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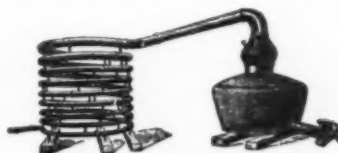
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THE COST IS NOMINAL. NO EXPENSE FOR KILNS. NO FIRE RISK.

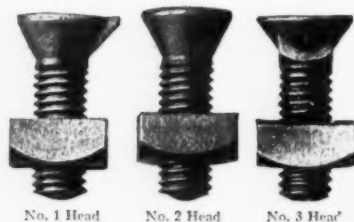
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You Can Depend on Upson Plow Bolts

Strength, accurate pointing and threading, fine finish—you'll find these qualities in Upson Plow Bolts just as in all other kinds of Upson nuts and bolts.

This dependable uniformity comes through our complete control of every step in manufacture. From ore to shipping platform every process is under our constant supervision.

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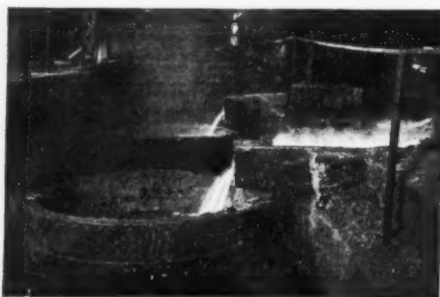
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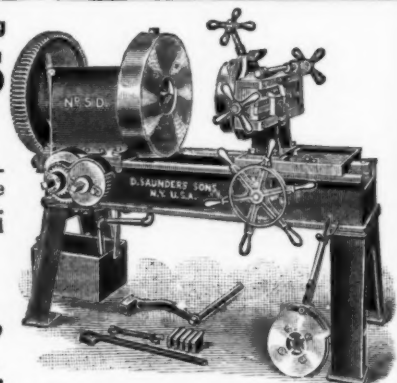
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All Sizes for Pipe Mills
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This cut shows our No. 5 D Improved Power and Hand Pipe Threading and Cutting Machine. Capacity 1 to 6 inches Universal Gripping Chuck.

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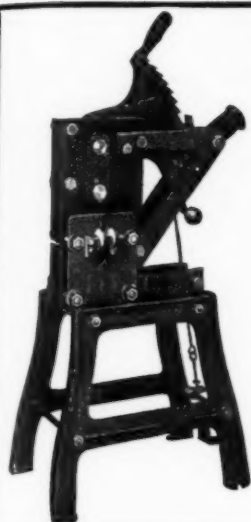
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Steel Die Embossed Stationery
Write for Samples and Prices.

OPPORTUNITIES FOR BUSINESS

Read the list in the Construction Department of this issue of new companies being started in the South. Can't you supply them something?

Manufacturers Record, - - - Baltimore, Md.



Buffalo Armor Plate BAR CUTTER

Weighs only 300 pounds, yet has same cutting capacity as cast iron machines of twice the weight, viz.: Twisted bars up to 1" and round bars up to 1½". Indispensable for reinforced concrete work.

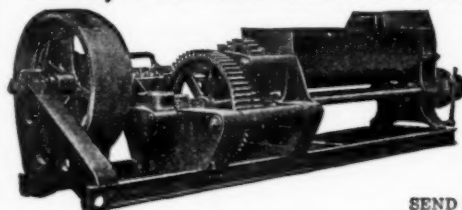
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BUFFALO, N. Y.

BRICK MACHINERY

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BRICK YARD SUPPLIES
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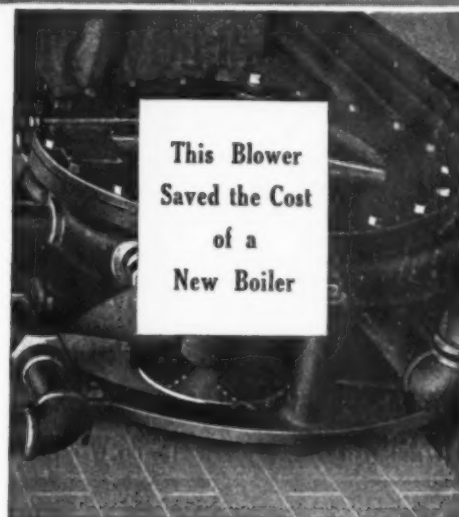
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Large range of sizes and styles. Capacities from the smallest up to 150,000 bricks per day. Complete line of Automatic and Hand Cutter for all kinds of ware. Pug Mills, Disintegrators, Crushers and Brick-yard Supplies.

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New Boiler

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Sturtevant
(REG. U. S. PAT. OFF.)

"Turbo-Undergrate Blower"

They bought it—cost was a comparative trifle compared to a new boiler—they saved several hundred dollars—we can show you their letter if you are interested.

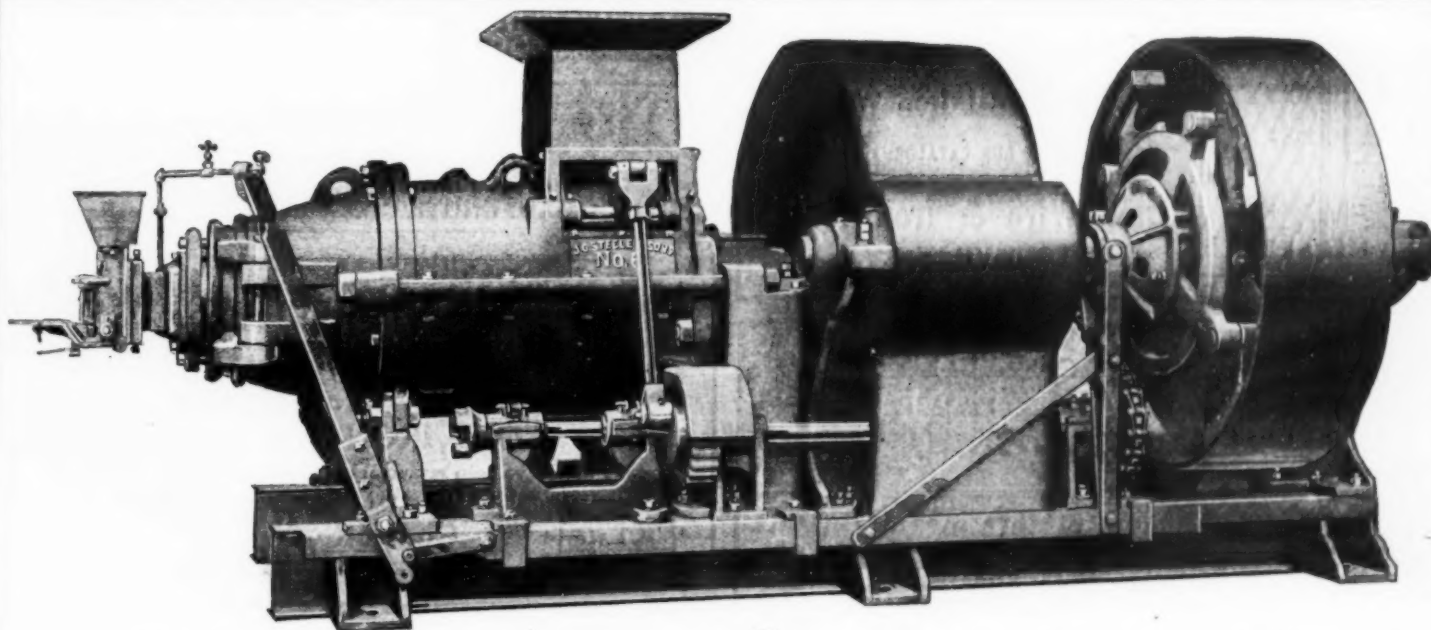
Perhaps you need more steam—more draft—perhaps you can't get over peak load. If not catalog 186-N will open your eyes. Where shall we send it?

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and all principal cities of the world

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Twenty-five Years' Experience in Working Southern Clays

Certainly should enable us to get better results than those whose experience has mostly been in other clays. This explains why we have been successful in working clays where others have failed. Any brick machine will work well in some clays, but our machines are built to work the most obstinate clays, which make them superior in the ordinary clays. We have achieved these results by simple principles, high-class workmanship and the best materials for the purpose, together with ample weight. Our machinery is as heavy and powerful as the best for the same capacity. OUR WEARING PARTS ARE MOST REASONABLE IN PRICE AND EASILY REPLACED, SO THAT WE CAN GUARANTEE THAT OUR MACHINES WILL COST LESS TO OPERATE THAN ANY OTHERS. Our end cut cutter is the simplest and the only one that will cut perfectly straight and continue to do so. They are especially adapted for face brick. This cutter has cut over forty million brick, with no perceptible wear on the irregular gears which control the cut.

WRITE FOR CATALOG.

J. C. STEELE & SONS

MANUFACTURERS OF BRICK-MAKING MACHINERY

Statesville, N. C.



YELLOW STRAND WIRE ROPE

See advertisement on page 82

AERIAL TRAMWAYS

Manufactured by

BRODERICK & BASCOM ROPE CO., 809 N. Main St., ST. LOUIS, MO.

WORKS (St. Louis, Mo.
Seattle, Wash.)

BRANCHES (76 Warren Street, New York
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TRADE MARK REG. U.S. PAT. OFF.

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When Building Bridges Bear in Mind the Qualities of CONCRETE

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NO MAINTENANCE—No painting, re-flooring, replacing.

CAPACITY—No decrease of capacity with age.

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THE COST is governed by the design adopted, the equipment and organization of builder, and local conditions. Ordinarily conditions are favorable to **CONCRETE**, and it will pay you to investigate. Remember, **CONCRETE** has its **QUALITIES**, and the saving in maintenance alone is a deciding factor. **ECONOMY** can be attained only by experienced and specially trained designers, and **BEST RESULTS** by specially equipped contractors. Get our proposal.

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ENGINEERS and CONTRACTORS

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SANITARY—ECONOMICAL—PERMANENT

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is treated in our publication—"Deliverance From Plague." It is a handsome booklet. Every sanitary engineer should have a copy. Mailed for the asking.

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Foundry and Machine Shops

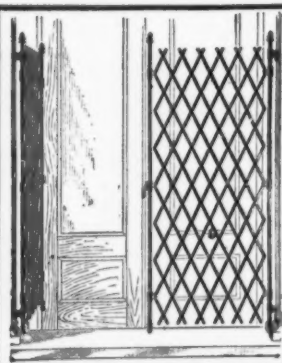
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Mines at CHATSWORTH, GA. Main Office: ASHEVILLE, N. C.



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Elevator Cabs and Enclosures
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LOUISVILLE, KY.

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APPROVED FIRE DOORS

THE KINNEAR MANFG. CO. COLUMBUS, O.

He Comes Back For More Nicholson Files



Sold by the
leading hard-
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everywhere.

BECAUSE

One **NICHOLSON** will do the work of several ordinary files—and do it faster and better.

Look for this brand on every file you buy.

**NICHOLSON
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(TRADE MARK)

It is your guarantee of file satisfaction.

NICHOLSON FILE CO., PROVIDENCE, R. I.

The Cutler Mail Chute

A recognized necessity in modern buildings of the office, hotel and apartment class.

Send for circulars and full information to the sole makers.

CUTLER MAIL CHUTE CO.

Rochester, N. Y.

The Mecklenburg Iron Works

Will be glad to answer all correspondence from parties who need or expect to need

**Machinery for Handling
GOLD, IRON or COTTON**

as they have been manufacturing such machinery for thirty years, and can give entire satisfaction. Their address is

M. I. W.

Charlotte, N. C.

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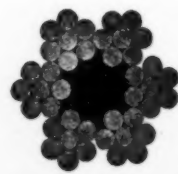


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Trade-Name Registered in the U. S. Patent Office

VOL. LXVI. No. 26. }
WEEKLY.

BALTIMORE, DECEMBER 31, 1914.

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RICHARD H. EDMONDS, Editor and General Manager

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ENGLISH CAPITAL FOR AMERICA.

W. N. FISHBURNE, 400 Stewart circle, Richmond, Va., in a letter to the MANUFACTURERS RECORD writes:

I read today at the office of John L. Williams & Sons an article, "The South's Thanksgiving Note," in your issue of November 26, and "The Unparalleled Opportunity for the South" in your issue of December 10. I was very much attracted by these articles, and would like to send copies of them to some capitalists in England who have money to invest in America.

This is only another illustration of how the facts and figures presented from week to week in the MANUFACTURERS RECORD are being used in this country and abroad to turn the attention of capitalists to the opportunities for investment in the South.

THE EFFORT TO RESTORE PROSPERITY.

MR. EDWARD L. THOMAS, president of the Thomas Gate Bar Co. of Birmingham, in a letter to the MANUFACTURERS RECORD referring to the improved business outlook, adds:

We are delighted to see the fight that you are making for business and the elimination of the fight against people who are endeavoring to do something in this world. Our heart is with you, and we want to assure you that we highly appreciate your effort.

The MANUFACTURERS RECORD is publishing on other pages of this issue letters from many directions similar to that of Mr. Thomas in commendation of its work against the warfare on business which for the last eight or ten years has cost this country billions of dollars and brought poverty where there ought to be abounding prosperity.

A DIVIDEND FOR LABOR.

HERMAN FRASCH, who died last spring in France, left an estate valued at more than \$5,500,000, according to the appraisal recently made. He was only 62 years old and had acquired his fortune in America within the past thirty years. Did he earn that fortune? Preachers of discontent who revamp at irregular intervals the fallacies of a social philosophy which has been advocated through the ages whenever craft has sought to feed upon envy, will cheerfully answer that question in the negative. The fundamental precept of their philosophy is, If the other fellow has something that you want yourself, take it from him by guile or brute force, should you be able to do so, or, such ability failing, raise a rabble large enough to give legal sanction to manifestations of predatory instincts. Disguise it as they may attempt to do by prophesying smooth sayings

that occasionally fructify into financial support of the prophets, in the material which passes for brains with imbecility that has inherited nothing but material wealth, the predaceous philosophers cannot conceal from sanity that their doctrine is essentially that of the troglodytes, and that their supposedly new social program is as old as the animal in human nature.

Intelligence acquainted with facts must acknowledge that Herman Frasch's fortune was justly his. Who was Frasch when he landed in the United States forty-six years ago? A poor German boy, sixteen years old, in search of opportunity to put to practical use his knowledge of chemistry, but a boy, as subsequent development in his career proved, possessed of the gift, becoming more and more rare, of vigorous imagination and with courage to realize his dreams. He was fairly successful in his young manhood. But his right to fame and fortune rests upon his making possible the utilization in many lines for the benefit of mankind of the vast bed of sulphur, the quantity of which is still unmeasured, lying five hundred feet below the surface of Calcasieu parish, Louisiana. Discovered by accident forty years ago, just about the time when the young German was getting his pace in the United States, this deposit of material, so essential in the manufacture of fertilizers and the basis of other important chemical industries, was undeveloped for nearly thirty years, in spite of more or less persistent effort to make it available, involving heavy losses to many who tried in vain to solve the problem of mining it. Meanwhile this country was coming to depend more and more upon Sicily and other foreign parts for its supply of sulphur. The difficulty was that above the bed of Louisiana sulphur was quicksand several hundred feet thick which balked attempts to sink the usual kind of shafts.

Muscle-labor, the kind of labor usually in the minds of the seers who would revolutionize human society back to the days of teeth and claws as the principal agencies in the struggle for existence of human beings among one another, could not get at that sulphur. Mind-labor was the thing called for—mind-labor that puts the tools into the hands of muscle-labor and keeps them there. Frasch answered the call. He had that sort of trained mind that breaks away from the conventional. Why try to sink a shaft through the quicksand? Was there no other way? Certainly. Suppose we send an iron or steel pipe right through the quicksand, force superheated water or air through the pipe, thus melt the sulphur, and then pump the liquid to the surface. It was worth trying. It was a success.

The advantage of mind over muscle was quickly demonstrated. In Sicily the mining of sulphur was a case of muscle-movements all along the line, with every pound of the mineral dug by hand in hot pits and underground chambers filled with disagreeable fumes, and then in lots of forty pounds, in baskets on the backs of men, up 180 feet of chicken ladders to the surface. In Louisiana Frasch made it possible to bring nearly pure sulphur to the bins on the ground without the movement of a single muscle underground. The difference nearly prostrated the Sicilian sulphur-mining industry and threatened economic and social disaster, with ultimate political troubles for the Italian Government. It transferred the dominance of the sulphur markets of the world to the United States and added to the productivity of Louisiana an output valued at between \$4,000,000 and \$6,000,000 annually.

Had not Herman Frasch a moral right to \$5,000,000 as his share of the results of changing barrenness to an annual production of millions of dollars a year? And did he not, in working that revolution, assure an annual dividend to muscle-labor of many kinds? The proper habitat for the creatures who

think otherwise is some region where they may go clothed in a suit of sunburn and make their meals of the droppings of bread-fruit trees.

A NEW-YEAR OPPORTUNITY TO RESTORE NATIONAL PROSPERITY.

THE total value of the agricultural, manufacturing, mineral and forestry products of this country exceeds \$40,000,000,000 a year. Of recent years we have exported about 5 to 6 per cent. of this, or from \$2,000,000,000 to \$2,400,000,000 annually. Thus less than one-sixteenth of the total value of our products has gone abroad.

While this \$40,000,000,000 of value represents the output of the country, it does not, of course, begin to represent the volume of trade. These products are sold and resold, giving employment and profit to millions of people. They are transported back and forth, furnishing freight to the railroads and employment to other millions. They are the basis of all of our business life. But even in their primary state the output is \$40,000,000,000, while we have exported only 5 to 6 per cent. of it.

We are now exporting, partly by reason of the heavy demand in Europe for war munitions, probably quite as much as during years of peace. Indeed, it is quite possible that the total exports of the coming year, notwithstanding the decline in the price of cotton and the smaller exports of that staple, will equal the highest exports we have ever had, and possibly run far ahead. It is true that this is due to war conditions. Nevertheless, the goods have to be made and sold and shipped, and the money comes back to us, or the agricultural products have to be raised and exported, and they, with the exception of cotton, are being sold at a high price. What is there, therefore, in the European situation to have any such effect on our business interests as to bring about present depression? We are selling as much to Europe as in other years, and if we are not importing as much, it merely leaves a larger market at home for our own manufactured products. So far as our foreign trade, therefore, is concerned there is no foundation whatever for inactivity in trade, except as to cotton, and this will be offset in the total volume by other exports.

We have just as many people as we have ever had, and their number is increasing at the rate of about 1,500,000 a year, making more mouths to feed and more bodies to be clothed.

The war has not in any way lessened our natural resources. It has not destroyed our timber, our coal, our iron, our water-powers, nor any of the other vast resources which give us an unmatched combination as compared with any other equal area in the world.

Europe is not buying heavily of our securities, but, on the other hand, we are keeping at home the several hundred million dollars that our tourists have annually spent abroad, more than offsetting the decline in Europe's annual investment in our bonds and stocks.

What, therefore, is the matter with us?

We know that the tariff has had a depressing effect on many lines of industry. We know that it has practically destroyed some. But even an adverse tariff, bad as it is, is not a full explanation for the timidity and fear and lack of business prevailing throughout the country. We ought to repeal the present destructive tariff—destructive of national income as well as destructive of business. But look still farther.

We know that for the last ten years there has been a relentless war upon business, big and little. We know that the railroads have been very nearly throttled to death by adverse legislation, State and na-

tional. The country has gone on the theory that men would continue to invest billions of money in the building of railroads even though they might have no voice in the management of these roads or in the fixing of the rates for passenger and freight business. It is difficult to imagine anything much more absurd than this theory. One of its dire results is seen in the figures published last week that in sixteen States the new railroad mileage was less than in any year since 1880, when the country had only one-half of its present population and less than one-half the average annual new mileage built in any year since 1880.

The very men who are decrying railroads and constantly fighting them could not be tempted to invest their money in railroad securities under such conditions. But the Interstate Commerce Commission in its recent decision has given some indication that it is beginning to see a new light and beginning to recognize that it is not a wise policy to destroy the railroads. There is much of hope in that reversal of all its former policies. It indicates that the members of the Commission are not so absolutely bound by precedent as not to be willing to reverse themselves to save the railroads of the country from ruin.

This change of position by the Interstate Commerce Commission and the opening of the new year might be used as an opportune occasion for all in authority in Washington and in State governments to be willing, if necessary, to reverse former policies and to set forth the view that it is time for the ten-year war upon business, from which we have been suffering, to cease. It should be proclaimed everywhere that our condition is not due to the European war, but existed to a large extent before the war, and, disregarding the mouthings of the ranters who live by continual agitation, make broad and sweeping proclamations that the whole power of the National and State administrations will be concentrated upon the upbuilding of business, and that every effort will be made to co-operate with the business men of the country in reviving our business interests and in restoring general prosperity.

It is within his power, by reason of his position as the head of this great nation, for President Wilson to take the lead in a work of almost limitless potentialities for good by calling the country back to sanity of thinking and acting and to an enthusiastic co-operation with the business forces in leading this nation out of the poverty of the present to that broad prosperity to which we are rightly entitled. Others would quickly follow him.

We have looked with horror upon Europe's awful war, but we have had a ten-year war upon business which should be stopped to the everlasting gratitude of the people of the country, to the rescuing of hundreds of thousands from the deepest poverty and the direst suffering, and to the saving of thousands from death by reason of poverty.

The only war we should now have is a war upon the war against business.

The administration and the dominant party in Washington could lead the forces of the nation into constructive upbuilding if they would invite as advisers and collaborators the most far-seeing business men of every section and pledge to them and to the nation at large the utmost power that is within them to restore prosperity and stop the ceaseless death-dealing war upon business. If this should be done, it would have a tremendous influence in changing for the better the conditions now existing and in bringing the country back to that prosperity ruling before this ten-year war, under which every man who wanted employment could find it; a prosperity which was burdening the railroads with freight and steadily increasing their earnings; which was causing every wheel in every factory of the land to be run at its fullest speed; which was giving to the farmers of the South, as well as of the West, an abounding prosperity because of an ever-increasing demand for their products. Millions of people would hail with delight such an announcement. Hundreds of thousands of men now walking the streets vainly seeking work and whose families are in deepest poverty would quickly find employment.

No greater opportunity for advancing the welfare of all the people of all sections has ever existed than that which now faces the powers that be. This opportunity is too great to be considered in the light

of party politics, too overwhelming in importance to be thought of as to its influence upon this party or that, or this man or that.

Here in this Heaven-blessed land, free from war's alarms, with a hundred million people occupying the most richly endowed country on earth, we are having less of business prosperity, less of optimism, and more of timidity and fear than have existed for many years without any justification for such an untoward condition except our own doings.

The reason is within us. We are paying the penalty of our own blunders, our sins of omission and commission and our constant heckling of every business interest in the country through uneconomic, unwise and wholly useless legislation in National and State affairs.

If the party in power wants to restore National prosperity, let it lead in constructive work by sweeping away many of the harassing restrictions of business for which it, as well as the Republican party, is responsible. Under such a policy, with a willingness to admit mistakes and to overcome them by a reversal of some of the blunders committed in destroying the sugar industry and injuring others by free-trade tendencies, there would quickly come prosperity to the cotton growers of the South, to the sugar producers of Louisiana and the West, to every factory in the land, to the railroads and to every industrial and business interest of our country. The Interstate Commerce Commission has had the courage to disregard precedents and to reverse the whole policy of its existence. Are the leaders in Washington and elsewhere willing to learn the lesson and to reverse some of their own pet theories, now knocked into a cocked hat by the stern logic of facts, and save the country from poverty and bring to it abounding prosperity by following the lead of the Interstate Commerce Commission, which, though it did not go half far enough, at least made a start on the right road?

Never before had any party a greater opportunity for doing a work of infinite value to the whole country. If it should rise to the occasion, there would be a sudden change in business conditions.

Now men are piteously begging for work; then work would be seeking men; then capital would hunt investments and not investments and bond issues beg for a little capital to carry on absolutely essential undertakings as at present; then the sunlight of abounding prosperity would dispel every vestige of the cloud of poverty which hovers over the nation. Will the political leaders have the courage and farsightedness, even by reversing themselves, to bring prosperity back to our country?

WORKING FOR THE WORLD WITHOUT WAGES.

FOR Southern people to plant a large acreage of cotton next year will be for them to go into voluntary servitude; it will be for them to agree to work for the rest of the world without wages, and they have sense enough not to do it.

Good advice is given in that sentence in The State of Columbia, S. C., though it loses some of its force in its phrasing. Sixteen Southern States, including Missouri and Oklahoma, have a population of 34,000,000. Those States produced last year in agriculture to the value of \$3,000,000,000. Of that total, cotton, with its seed, represented only \$1,040,000,000. That was the largest sum that the cotton crop of the South had ever brought. But the other agricultural products of that section had a value nearly two and a half times as great. That fact is not as fully appreciated as it should be. It cannot be iterated too frequently, for it means that cotton has not the dominating importance in Southern agriculture that is usually ascribed to it. Nevertheless, too much stress is laid upon the cotton crop, and, because of that, the situation that developed at the prospect of the closing indefinitely of the markets for one-half of this year's crop was given an influence that did not properly belong to it. For instance, with more than \$8,000,000,000 as the sum that had been received in the preceding nine years for the cotton crops, and with agricultural products other than cotton bringing to the South annually more than \$2,500,000,000, there was no substantial fact upon which to base an

impression that obtained in some quarters that poverty had suddenly come upon the South.

But take the eleven States of the South where is raised about 94 per cent. of its cotton—Alabama, Arkansas, Florida, Georgia, Louisiana, North Carolina, Kansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia—the conception of the South probably in the mind of The State, and what are the facts? In those States, which have now a population of about 23,000,000, are, according to the last census, 2,491,509 persons operating farms. Of that number 1,618,123 raise cotton, an average of 6.20 bales to the farm. In those States 5,933,279 persons are engaged in all phases of agriculture, and of that number 3,850,698, approximately, are engaged in agriculture upon farms where cotton is raised. So the number of persons in those States who have anything to do with the raising of cotton constitute less than 17 per cent. of the population of these States. Another fact: of the total number operating farms of all kinds in these eleven Southern States 1,305,885 are tenants and 217,085 are operating mortgaged farms. How many of the farmers who own their land free of other encumbrances give liens upon their cotton crops every year cannot be determined. But it is obvious that by far a minority of the people of the South ever plant cotton.

To summarize: Of the 34,000,000 population of the South 23,000,000 live in eleven States that raise 94 per cent. of the cotton of the country. Of 3,364,000 persons in the South who operate farms 1,714,000 raise more or less cotton, and the greatest value that any cotton crop of the South has ever had was less than 29 per cent. of the aggregate value of all its agricultural products. Of the cotton growers in the eleven States raising 94 per cent. of the cotton 1,526,000 are tenants or are operating mortgaged farms. After all, it is that class of farmers in the South whose planting is to determine the acreage that will be devoted to the cotton crop of 1915. But in the nature of the case, and in sequence to long-standing custom, that class of farmers are hardly free agents. If we may repeat what we said two months ago, the individuals who are in the best position to fix the acreage of cotton are the men who control in one degree or another the farming policy of the great majority of cotton growers. These influential individuals are such landlords as are unable to find tenants capable of raising anything but cotton; such money lenders as depend upon crop liens for their security, some of whom are the only kind of bankers that thousands of farmers know, and such merchants as are accustomed not only to supply on credit the growers with the materials for making their crops, with food for themselves and with feed for their stock, but also to take their cotton in settlement of store accounts, making comparatively large profits in all transactions. These three groups who thrive upon tenants, mortgaged farmers and other growers are the ones upon whom an enlightened public opinion must be brought to bear through such utterances as that of the Columbia State. These are they who must be made to understand that cotton growing year after year, however profitable it may be to them, is spelling hardships for the growers, and if not modified, to the extent at least of raising enough home supplies for man and beast, will spell ruin for them.

As things stand now, the next crop of cotton in the South, no matter how small it may be, no matter how large, will come upon a market loaded already with 8,000,000 bales. Should a normal acreage be planted and an average crop be raised, no one need look for more than five or six cents a pound for his cotton. That would mean that Southern cotton growers would be working for the rest of the world without wages, as The State puts it, and mulcting themselves for the privilege of doing it. The man who says he will not renew a lease unless the renter agrees to plant as many acres of cotton as usual, who says he will not lend his money unless the borrower agrees to plant the usual acreage of cotton, or who refuses to extend credit at the store unless the buyer agrees to plant the usual acreage of cotton, that is the man who will be really enslaving the cotton growers. That is the man to be dealt with by the press of the South for the benefit of the cotton growers and of the people of the South.

Manufacturers Discuss Frankly Present Business Conditions and the Prospect of Betterment.

INTERESTING sidelights upon conditions of the manufacturing industries of the United States and related activities have come to the MANUFACTURERS RECORD as a result of inquiries made about four weeks ago directly to the heads of about one thousand of the undertakings represented in our advertising pages. The inquiries were based upon the following facts:

The European war has affected American manufacturers in two different ways, broadly speaking.

It has interrupted their normal export trade, thus limiting their foreign sales, except in cases where there has been a temporarily increased demand for products directly or indirectly required in warfare.

It has cut off supplies from abroad of materials used in American industries, some of them long regarded as absolutely essential.

In reflex of this disorganization has come a sluggishness in American markets for American products.

The MANUFACTURERS RECORD is convinced that this sluggishness can be shortly overcome, and that, without relaxing in any way the definite plans and the determined purpose to enlarge the foreign markets for American manufactures and to increase their number, now is the accepted time, now is the unprecedented opportunity to develop our own American markets for such goods.

Our desire for the co-operation of manufacturers with us in setting forth the information upon which an adequate campaign may be conducted for the advantage of our manufacturing interests and of all other allied activities has met with most gratifying response from leading business men in different parts of the country in expressions of opinions as to the causes of the present business situation and as to the outlook for the future. These views of active business men, based upon practical business experience, constitute an important contribution to a discussion which must be had if material difficulties are to be overcome.

The War Compelling a Readjustment in Living to Equal Facts and Not Hopes.

BIRMINGHAM RAIL & LOCOMOTIVE CO.,
BIRMINGHAM, ALA.

Editor Manufacturers Record:

The export business of the United States only indirectly affects our business, which is with the lumber and mining people throughout the South. After a thorough investigation we have concluded that it would hardly pay to try to export our kind of goods.

From our point of view, the war's effect on business in the United States will do more good ultimately than if it had not occurred. The people of this country have been spending too much money compared with their incomes. We have all been hoping, from month to month, that "boom-time" profits and the big volume of business pre-railing prior to 1907 would return. The war coming on has forced us all to realize where we stand and to economize, and sooner or later the present economies and savings will enable the people to have money with which to pay up their debts and make new investments. Business is already being placed on the most substantial footing that has existed since 1907, and we are glad to state that all indications are that the demand for goods is increasing daily. But what about profits?

This is one big question that the employers of labor and the employees of this country have to realize and work out (and why not use common sense and work it out in a fearless and just way to both employers and employees). As we all know, we have been raising wages every year until now we are at a pretty high level, about the highest ever known for wages, and, compared with the cost of living, the wages do not seem unreasonable—but isn't it a truth that the higher the wages the higher the cost of living? The laboring man gains very little, if anything, more in the end by the high wages if this is true, but the manufacturer who has to pay the high wages soon finds the difference between his best cost and his highest selling price so close together that he can't make a living. The consequence is either a shutdown or bankruptcy. If that is the case, hasn't labor "killed the goose that laid the golden egg?"

Now, by reducing wages in the cities, won't part of the labor go to the farms and more and cheaper farm products be raised, and living expenses be reduced?

We are told that the railroads can't make a living without raising freight rates. If we raise freight rates tomorrow, how soon will it be before the labor unions will absorb in their demands every penny or more than the advance allowed? And then the railroads will have to come again for another raise, to be again absorbed. There is food for thought in this.

When the war is over and the half-starved people of practically all of the balance of the manufacturing world will be anxious to work at any wage obtainable, then how can we hope to hold our export business with present high cost of labor to start with, when if business gets good we may certainly expect to have to raise present wages. Hadn't the employers and employees better get together, and while we are straightening things out try to get labor down to a basis where the manufacturers and other employers can put them to work?

There are thousands of skilled union men in this country today out of work and no prospects of work other than hope that things will get better. As one man said today: "I am a boilermaker; the scale of wages is \$4 per day; but I am not at work, and have only worked two days in two months. So what good does it do me to wait on days and months for a job at \$4 per day when there is no work at that price?" And his union won't let him work for less than the fixed scale, and I know him to be an Al man.

We have been told that the goods we export are not properly boxed, etc. That can be arranged very easily, and many of the other difficulties can be overcome. But what about cost? This does not apply so much to goods made by piecework, for I know that we produce a lot of goods, which are made by machinery and piecework, which can compete in any market anywhere; but union labor is bitterly opposed to piecework,

and we all know that goods produced or work done by any day labor costs more than ever before, and far more than when produced by piecework. The bulk of the exports of the United States has only been our surplus, which, as a general thing, has been marketed at much below home prices and in many cases below cost.

It is high time for us all to give this matter serious thought if we are to put to work the idle labor, a great many of which were idle for many months before the war was declared.

In conclusion, it strikes the writer that, if the employees of this country would voluntarily recommend a daily wage for skilled mechanics and other labor, based on present demand for goods and profits therein, it would not only encourage a resumption of business throughout the country, and put to work the idle labor in this country, but when prices and the demand increased the employers would certainly be more inclined to voluntarily raise their wages back as the business and profits permitted. But can we hope to start out on present prices for labor? We believe that the manufacturers of this country have decreased their cost of everything down to "bedrock" except their labor, and still there is no profit. If labor has shut down business, or "killed the goose that laid the golden egg," isn't it time now, quick, before the situation becomes more acute by delay, to try to start the wheels of industry and cause more capital to invest by showing it a profit on the investment? I believe the thinking men among the employees stand ready to operate—to carry their share of the load to get the wheels to turning, and we all know that starting a load is the hardest part of the pull.

HASKINS WILLIAMS.

"We Could and Should Be Doing a Good Business and Enjoying Prosperity Regardless of the War."

THE AMERICAN LUMBER & EXPORT CO.,
BIRMINGHAM, ALA.

Editor Manufacturers Record:

In regard to business conditions, present and prospective, in our country, our observation as wholesale dealers doing business in several States, both North and South, lead us to the conclusion that we could and should be doing a good business and enjoying prosperity regardless of the war. While it is true we have lost for the time being a vast amount of export trade, yet it is also true that we have in the past lost a great deal of our home trade to our foreign competitors which we have an opportunity now of gaining and retaining and which in large measure would offset our export losses.

We also find that while there is apparently an abundance of money with which to transact business and to finance expansions and improvements of all sorts, yet it seems that those who have it in their possession or control are either afraid to invest or are holding out for other reasons for prohibitive rates of interest. There is certainly no lack of golden opportunity for investment, and on a cost basis that will probably not be equaled in this country for many years to come.

Practically all building operations or other forms of permanent investment require loans with which to finance same. Owing to the low prices of materials and labor, many are disposed to go ahead with construction work, but are unable to finance the project at a reasonable rate of interest.

It would seem, therefore, that we are not doing as well as we might with the means at hand. If our monied people would exhibit a little more confidence in the future by releasing their funds on a reasonable basis and show their faith by their works, so that money would be available for loans or permanent investments at reasonable rates and bonds and other securities be sold on a fair basis, the situation would rapidly adjust itself and prompt return of prosperity be assured.

As for the matter of public improvements at this time to relieve the situation, that is most commendable wherever practical, but unfortunately the average municipality, county or State finds itself unable to do this through lack of funds and inability to dispose of bonds save on a sacrifice basis of which public opinion does not approve and the laws often positively prohibit.

We happen to be in touch right now with the situation in one of our Alabama counties which has issued \$50,000 in 6 per cent. bonds which are considered gilt-edge bonds by one of our experts and have been investigated and found legal. The law does not permit of their sale below par, but best offer thus far obtainable has been 95. There is nothing wrong with such an investment from a lender's standpoint that we can see, and were these funds provided it would not only put that much money in circulation in that particular county, but would give hundreds of hungry men a job, thus relieving a vast amount of distress. We hear almost daily of just such situations.

Put our own money to work on a reasonable basis, begin trade expansion at home, think of and study out not what we can do when the war is over, but what we can do before it is over with what we have at home, and our days of pessimism will be minimized, if not entirely past, in a very short time.

FRED LARKINS, President.

Serious Depression Made Worse by the Fact of War.

KAUL LUMBER CO.,
BIRMINGHAM, ALA.

Editor Manufacturers Record:

We do not attempt to do an export business for the reason that our rates to tide-water are prohibitive, and we are not, therefore, very well qualified to express opinions along the line of your inquiry.

We are inclined to believe that the conclusion of the European war, if brought about at an early date, and provided financial readjustment can be made promptly,

will tend to increase foreign demand for our lumber; otherwise there is likely to be no improvement for a considerable time to come.

We do not believe that sufficient emphasis has been placed, or is being placed, upon the quantity and quality of American-made goods for American markets, and we are more than glad to know that you are insisting upon the opportunity and the need of developing our own market for our own goods. This may not directly benefit the lumber market in particular, but our industry undoubtedly will reap a great reflected benefit.

The dullness in the American lumber market we believe to be largely due to a tightness of money and serious depression existing before the declaration of war in Europe, and this, of course, has been made worse by the fact of the war, both through its effect upon the export lumber business and its effect upon other industries.

J. H. EDDY, Manager.

"The Elimination of the Fight Against People Who Are Endeavoring to Do Something in This World."

THOMAS GRATE BAR CO.,
BIRMINGHAM, ALA.

We are not catering to the export trade. The United States is so full of business for us until we are unable to give any time or thought whatever to the export business. We are pleased to advise, though, that conditions seem to be brightening up, the writer having been over quite a large area in the past four weeks, and finds business fairly good and with prospects for the coming year just simply fine. If things will materialize after the beginning of the new year as they seem at this time, we are all going to enjoy a prosperity during the next year that we hardly could hope for at this time.

We are delighted to see the fight that you are making for business and the elimination of the fight against people who are endeavoring to do something in this world. Our heart is with you, and we want to assure you that we highly appreciate your effort.

ED. L. THOMAS, President.

Can Increase Facilities to Keep Pace With Demand for Goods.

THE VEEDER MANUFACTURING CO.,
HARTFORD, CONN.

Editor Manufacturers Record:

Our principal foreign markets are in the British Isles and Continental Europe. The home market is our larger one, but we seek foreign trade as well, and can increase our facilities to keep pace with the demand for our goods irrespective of where such demand may come from.

The conclusion of the war will, in our opinion, tend materially to increase the demand for our goods.

Tin is about the only foreign article that we use, and we have at no time been unable to secure sufficient for our requirements.

We attribute the dullness in American markets principally to too much legislation. Change in tariff, new currency bill, income tax, etc., would have caused a stagnation in business had there been no war. The war has exaggerated the situation.

We believe that most manufacturers have duly emphasized the quantity and quality of their goods suitable for American markets.

We are preparing to manufacture new articles and are stocking up on the old.

D. J. POST.

American Manufacturers Should Be Sure of the Quality and Suitability of Their Goods.

BROWN & CLARKSON,
Civil and Mining Engineers,
WASHINGTON, D. C.

Editor Manufacturers Record:

We are civil engineers, collectors of data, formulators of plans for constructive work, therefore your questions outlined to fit the manufacturer, who is either supplying a foreign demand or depending upon foreign materials entering into his product, do not seem to have direct application to us.

Yet in a way we are manufacturers, as we specialize in the making of geodetic and topographic surveys, a necessity to every country, State, city or individual contemplating constructive work dependent, as most work is, upon the configuration of the ground. We are informed by geologists and engineers that such surveys are badly needed in every country of South America.

Referring to your questions in detail, will say:

(a) We are endeavoring to seek an output of our industry in all South American countries, especially Argentine, Peru, Brazil and Chile.

(b) The conclusion of the foreign war will increase the demand only so far as it betters the financial condition of those countries, rendering money available for constructive work.

(c) Our output is not dependent directly upon materials supplied from abroad.

(d) There is a decided dullness existing in our case, due to hesitancy on the part of the public to undertaking to finance new developments or improvements in the face of present uncertain financial conditions. The remedy lies in adjustment to present conditions, confidence in the future and a realization of the public that now is the time at which all constructive work can be done most economically; better contracts can be obtained today than will be possible in the near future.

While emphasis by publications as to the quality of American-made goods is doing some good, the most important thing is for American manufacturers to be sure of the quality and suitability of their goods and to have each article so marked that if the quality and price pleases the consumer, he may not only know that it is American-made, but will know just what to ask for to get that same quality and just what price he should pay.

We are doing what we can in maintaining and improving our organization, upon

a basis that we may be able to handle a maximum amount of work when it comes. We are also doing more publicity work than at any past time, so as to acquaint the public with the service we offer.

W. N. BROWN.

Country Would Be Better Served by Sending More Business Men to Legislative Bodies.

MILBURN, HEISTER & CO.,
Architects,
WASHINGTON, D. C.

Editor Manufacturers Record:

I have been in business 24 years, and from a business standpoint I consider this one of the most unsuccessful years I have ever had. I do not suppose it is the best thing in the world to complain of conditions, but rather think it to the interest of all to boost conditions whenever possible.

First of all, I think this country has suffered through too much unwise legislation. I believe the best interests of the country would be served by more business men being elected to the Legislatures and to Congress, and not have these bodies made up almost entirely of lawyers. Why should the judgment of the legal fraternity be better than that of the experienced business man, who comes in contact with each and every class.

I think some of the laws that have recently been passed are wise, and I think some of them are unwise, but there is one thing, I believe the business interests of the country have about made up their mind that some of these laws are permanent and are going to shape their business to suit the conditions.

I do not believe that there is any better time for the Government, States, counties and cities to expend public moneys to furnish employment for the unemployed and to give a general boost to the conditions. At the same time, these needed improvements can be done for considerably less money now than when business conditions of the country are more prosperous. The unemployed need the money, and I do not believe in spending money uselessly, or being extravagant. I think that the Government, States, counties and other municipalities can well afford to issue bonds to make the improvements that are actually needed, and let future posterity, which will benefit by these improvements, help bear the burden.

I do not believe that this country is in condition to stand any more taxes, when the business of the country has fallen off as it has in the past few years.

Being in the public building business, as I have for a good many years, I feel that I am in touch with the pulse of the taxpayer as much as any man could be. What makes good times is plenty of business, plenty of work and the spirit of confidence, and those who are in public life, who have hold of the pursestrings, should be the first ones to advocate the expenditure of moneys to make the needed improvements or start the ball a-rolling.

To my mind, the mistake that is made by the average politician who is put in office, as soon as he assumes his duties he begins to plan for re-election instead of working and planning for the good of the people whom he represents. Public moneys can be expended to great benefit during times such as these we are now having. Almost any public improvement can be carried out 15 or 20 per cent. cheaper now than when times are more prosperous, and I, for one, advocate the issue of bonds distributed over a long period of years, rather than laying direct taxes, as I think the burden of taxation of the people at this time is as much as they can stand.

FRANK P. MILBURN.

American Goods Have Not Been Properly Pushed Ahead.

C. M. STEINMETZ,
Engineer, Surveyor and Millwright,
WASHINGTON, D. C.

Editor Manufacturers Record:

I consider South America, Australia and China the coming countries for America's outlet of commerce.

I would consider the European war a factor for increasing demand for American goods and talents.

So far as my business is concerned I have no occasion to use foreign-made goods at all, and consider our own goods the equal to any foreign products so far as I have been able to measure their standards. American-made goods should increase immensely in volume of production.

I attribute the dullness in American business to the joint causes of the European war and the lack of confidence in the Wilson administration by the business men of this country.

I do not believe American goods have been properly pushed or handled nor sufficiently advertised in foreign countries, not the local conditions in such countries properly considered to conform to the immediate wishes of these foreign consumers. There should be more drummers in these foreign countries to get in touch with the local requirements.

I have made preparations for the increase in business that I expect will come to this country, and I expect to advertise my business wherever it will pay me to do so.

C. M. STEINMETZ.

Railroads Cannot Afford to Borrow Money at 7 Per Cent.

T. W. SNOW CONSTRUCTION CO.,
CHICAGO, ILL.

Editor Manufacturers Record:

Our trade is almost exclusively with railroad companies; we therefore do but little with foreign railroads.

The conclusion of the European war will not affect our trade except through the money market; our trade will naturally increase as soon as the interest rate is lowered.

The dullness in our line is due to the high money market; railroads cannot afford

to borrow money at 7 per cent. interest, nor with their present income at even 5 per cent.

T. W. SNOW, President.

Looking for Good Business in 1915.

VOIGTMANN & CO.,
Metal Windows and Doors.
CHICAGO, ILL.

Editor Manufacturers Record:

All of the material we use is produced in the United States. We do not do any foreign business at all. The only thing that is wrong with business here is the lack of activity. The building industry always feels the need of money first, and is the last to recover. We are looking for good business in 1915, but have not made any special preparation to take care of it.

VOIGTMANN & CO.

"The Future Holds Great Things in Store for the American People."

CANNELTON SEWER PIPE CO.,
CANNELTON, IND.

Editor Manufacturers Record:

Our market is confined to the United States, and the bulk of our product is marketed in five States of the Central West, consequently we are not as much interested in foreign trade as manufacturers in other lines.

We have had several opportunities of marketing some of our product in Cuba, but we are not on a competitive basis with Southern manufacturers who are nearer to the coast, and hence we have made no effort to establish a connection in that country.

You will see at a glance that the European war will have no tendency to increase demand for our goods. On the other hand, we feel that the European war is directly responsible for a slump in our business, for the reason that the money market has been so tight and interest rate so high that municipal work is practically at a standstill, for the reason that low interest bonds do not look attractive to investors and to bond houses, and cannot be sold.

We have not felt the effect of this so much up to the present, but we see every indication of a slackening of municipal work in a general way due to this reason, and while we are quite optimistic about trade conditions in general in the year 1915, we fear that the curtailment of municipal work will have rather a depressing effect on the sewer-pipe industry. Shortage of orders for municipal work will have to be made up for by more liberal demand from the small consumers and the retail dealers. The demand from this quarter having been much smaller during the past 11 months than for a like period in 1913, this being due to short crops and a general depressed condition of the farmer and his lack of facilities for purchasing.

We are, however, looking forward to the year 1915 with the hope that it will furnish as large, or larger demand for our product than the year now closing, and have increased our output 30 per cent. during the past four months, and we are now preparing to enlarge our power plant to better handle this increased production.

We are genuine optimists, and we believe that the future holds great things in store for the American people, and that we will get our proportion of prosperity.

H. M. CLEMENS, Secretary and General Manager.

Dullness Due to Slackness of Demand for New Investments.

WESTERN GAS CONSTRUCTION CO.,
FORT WAYNE, IND.

Editor Manufacturers Record:

We are making only a limited attempt to get in touch with owners of gas plants in South America. Our apparatus is made up strictly to order, and we could make up apparatus for them as well as for this country.

The conclusion of the war will probably have little effect on the small amount of foreign demands we will find for our goods.

The war has not cost us any embarrassment as regards materials, as we use only iron and steel.

The only cause of a dullness in our line is that the apparatus we make is financed by issues of new paper in almost all cases, and, as you know, there is practically no demand for new investments in this country at the present time.

All apparatus along our line is American-made at the present time.

We are taking no special steps for a revival of trade in our line, as this business we find is usually one of the last to pick up, and the revival will be very gradual.

W. W. HACKNEY, Sales Engineer.

Hope in President's Assurance That Business Legislation Is at an End.

AMERICAN ELEVATOR & MACHINE CO.,
LOUISVILLE, KY.

Editor Manufacturers Record:

We do not cater to European trade, and the only foreign business we do is in Cuba, although we did install some of our elevators in Mexico previous to the trouble in that country.

We are able to secure all the material that is necessary in the manufacture of passenger and freight elevators in this country, and especially since we ourselves manufacture practically every part that goes to make a complete elevator.

Our business depends entirely upon building operations, and, while it is a known fact that building operations have fallen off considerably, our sales to date for the present year have been a trifle better than last year, and 1913 about 20 per cent. in excess of 1912.

We are of the opinion that business should soon open up, because of the fact that the new banking system is now in operation and the President's assurance that busi-

ness legislation is now at an end. Furthermore, the large quantity of crops should be an important factor toward the prosperity of our country.

V. K. ECKER, Secretary and Treasurer.

"National Government Should Throw Aside Timidity and Doubt and Set Capital an Example."

DOW WIRE AND IRON WORKS,
Engineers,
LOUISVILLE, KY.

Editor Manufacturers Record:

We have great faith in the near future; we know there are some things we will need when business improves, and these things will cost less now than then; for that reason, we are installing new machinery, repairing old machinery and making other improvements to our factory while it can be done for the least amount of money.

If this policy is good business for our factory, it would be equally so for the Government. We should immediately improve our immense waterways, an invaluable asset to our country; good roads, national highways, should be built from the Atlantic to the Pacific, and from the Gulf to the Lakes. The National Government should throw aside timidity and doubt and set capital an example. Besides saving the Government hundreds of thousands of dollars, it would give work to a great many men who are now living on charity; thus would be brought about an immense moral as well as financial uplift over the whole country.

Trusting you may be able to impress the importance of this policy upon Congress, we remain.

W. HUME LOGAN, President.

The Way to Expand American Trade Is to Discover and Make What America Wants.

KENTUCKY CORRUGATED PAPER CO.,
LOUISVILLE, KY.

Editor Manufacturers Record:

You have undoubtedly diagnosed the case of the American manufacturer correctly, and the several special articles in your issue of December 10 most fully cover the depressing and perhaps disastrous economic condition with which we find ourselves confronted.

The remedy must be found, and found quickly, or relief will come too late to a larger proportion of Southern manufacturers than the average observer would be willing to admit. We, for one, believe that it will come to our quickest advantage through trade papers such as yours with large circulation, and in whose sincerity of purpose and clarity of vision the manufacturer has confidence, and knows that you can crystallize our ideas and show us the most direct way out.

In so far as we are concerned, the first two questions in your letter can be answered as one. As middle-sized and centrally-located manufacturers of a strictly American consumed product, the war and its curtailment of exports has affected us but little except for its general reflex action which has been felt in business all over the world.

We can safely say that with one unimportant exception a satisfactory and permanent American substitute has been found for all the materials which were formerly imported for the manufacturing of our product.

The answer to your fourth question—from our section of the country, at least—is this: There are three paramount causes for the present business stagnation. The first and most important, we believe, is the lack of confidence in the general policies as pursued by the present administration on the part of the average manufacturer, especially now that we have had time to see the disastrous results brought to the South by the removal of the tariff on sugar and the present pitiable condition of the cotton-growing section. The second, and almost equally important, is the effect on the country from the constant heckling of the railroads and of the financial centers by the too numerous "committees" of our present legislative body. The third, and least important, in our judgment, is the effect of the European war. We feel that the war has been blamed for much business depression that it is in no way responsible for, and that much blame for present conditions has been misplaced.

To answer your fifth question, may we ask you another? Don't you think that a great deal of emphasis has been placed on the quantity and quality of American-made goods suitable for American markets, but that the emphasis has been misplaced? Isn't the general tendency of our manufacturers to drive their customers, not to lead them? Of course, too much emphasis cannot be placed on this particular subject, and now is the psychological moment, but let us use our energies to their best advantage. Let us have no lost motion. We might take a leaf out of the German manufacturers' book in bringing our goods more forcibly home to our customers. The German manufacturer goes out, finds the trend of the buying public and then goes home and makes what the public wants, and naturally he sells his goods. We, on the other hand, make what the public ought to want, keeping our eye the while on whether we can make it cheaper than anything else, and then we go out and try to force the public into buying our goods.

If we are to convince the American public that American-made goods are the best for Americans, we must find out just what these same Americans want and then make it for them. That is the most emphatic way we can bring ourselves to our public's notice.

To conclude and to answer your last question, we are following the example of a certain well-known American gentleman and are pursuing a policy of "watchful waiting" and hoping that our vigil may be rewarded before it is too late. We agree with you that a revival of trade is bound to come, and we are preparing for it by keeping our organization intact as far as possible, by conserving our resources and by keeping a constant watch on likely applicants for positions as well as having increased our room for future physical expansion.

We are most heartily in favor of what you are doing to help us quickly over these hard times, and feel sure that all Southern manufacturers join with us in wishing you success in your good undertaking.

F. S. BISHOP, Treasurer and Manager.

Operating Plants on Part Time in Order to Keep the Organization Together.

INDUSTRIAL LUMBER CO.,
ELIZABETH, LA.

Editor Manufacturers Record:

We have made no particular effort to secure a foreign market for our output, as the question of vessels is a difficult one for a product such as ours, although some small lots of lumber are moving occasionally. We consider that the conclusion of the European war will very materially increase any demand we have ever had for our product.

The demand for our product in American markets has been considerably reduced, owing to the general stagnation occasioned by the European calamity, but there has been some improvement in the last 30 days.

Our plants are operating only two-thirds time, in order to hold our organization together and to help our men to earn at least enough to live on.

R. M. HALLOWELL, Vice-President and General Manager.

Condition of the Cotton Crop the Only Bad Feature.

WALTER E. HILL & CO.,
Heating and Lighting Contractors,
BALTIMORE, MD.

Editor Manufacturers Record:

We do not do any export business whatever, but find general business is not nearly as bad as people claim it to be. We are running now with last year's business, and it seems, outside of a few of our lines, there is not the slightest reason in the world why there should be any stagnation in business at this time.

The only bad feature that we can see is the condition of the cotton crop, otherwise we are optimistic on an immediate revival of a good healthy boom.

WALTER E. HILL & Co.

Eating Three Square Meals a Day and Losing No Sleep in Confidence That Things Are Coming All Right.

DANZER METAL WORKS,
HAGERSTOWN, MD.

Editor Manufacturers Record:

Foreign trade does not materially concern us, as we are not seriously interested in the sale of our goods at present abroad, feeling that if we can place our tools and equipments with every sheet-metal worker and roofer in the United States of America we will have done all the business we are able to handle.

We use but one imported article in the manufacture of our products, and we believe that we can find, when our present stock is exhausted, a very satisfactory American-made substitute for it.

Frankly, we attribute dullness in the American market to several causes—primarily, a nervous shock, due to the gigantic struggle abroad; partly to the calamity howlers, to whom we suggest suicide; and, in a great measure, to an effort on the part of certain manufacturers to discredit the present administration. But possibly the most important question, in our mind, is due to the serious blunder of appointing theorists to the Interstate Commerce Commission instead of sane-minded, level-headed business men who would have long ago settled the freight-rate question, we believe, by granting a substantial increase to the railroad companies, and then to require, in turn, that the railroad companies make the next move to a more economical operation of their lines. We have no sympathy whatever with the Interstate Commerce Commission. They may be all right and able to arrive at a decision in the next fifty years, but they are entirely too slow for present-day needs.

As to whether or not we believe that sufficient emphasis has been placed upon the quantity and quality of American-made goods, in our opinion we would say certainly not. America today possesses the widest range of products, the best equipped manufacturing establishments and the most skilled mechanics that the world offers, and we would like to see a universal plan adopted to stamp on every manufactured article the words, "Made in U. S. A."

In the way of preparation for the revival of trade, we are increasing our circular method of advertising, we are circulating reading matter in an effort to discourage calamity howlers, and we are telling all our customers and friends that we believe 1915 will be the biggest business year we have ever experienced. And, as evidence of good faith, permit us to state that we have at present on hand the largest stock of raw materials and finished products that we have ever had since we have been in business. The raw materials noted have all been purchased since the beginning of the war, and we are just so sure that things are coming all right that we are eating our three square meals every day and never lose a minute of sleep.

ROY DANZER, Secretary.

Railroad Situation Holding in Check New Construction Enterprises.

ALEXANDER MILBURN CO.,
Acetylene Gas Apparatus,
BALTIMORE, MD.

Editor Manufacturers Record:

Export business is secondary with us, but we do a fair volume in South and Central America, West Indies, Africa and Australia. We do not yet push this field hard, since we feel that we still have many undeveloped opportunities at home which occupy the best part of our attention.

The European war has not as yet had any marked effect on our export demand. The war would tend to increase it eventually, and consequently the conclusion of the war would offset this tendency.

About the only material we use which is affected by the foreign supply is solder. There seems to be no very good reason why this cannot be equally as well refined from South American ore.

The present dullness, so far as our market is concerned, can be attributed in a large degree to the present condition of the railroads, which is reflected into the con-

struction field and the iron-working industries, as well as affecting the general security market and thus holding in check new construction enterprises. The depressed cotton market in the South is also a factor in one of our lines. We believe that the granting of a rate increase to the railroads would have a material effect in improving conditions.

As far as our contact is concerned, we believe that American-made goods are making themselves much better known in the American market than any foreign competitors.

Our preparation for revival in trade has been along the lines of strengthening our products and organization. We have also persistently kept up our efforts among our best classes of prospects, so that when purchasing becomes active again they will know favorably of our products.

We presume that you desire the above information principally for purpose of preparing tabulations from a large number of similar replies, and not as a signed statement.

ALVIN W. KING, Secretary.

To Double Laboratory Space in Preparation for a Big Future.

WILEY & CO.,
Analytical and Consulting Chemists,
BALTIMORE, MD.

Editor Manufacturers Record:

Our business, which is that of general analytical and consulting chemists, has been very good, in spite of conditions abroad. We look for a continuation of same.

Our efforts have resulted in work coming from Norway, Sweden, Denmark, Finland, Hamburg, London, Honolulu, the West Indies and many points in South America. The volume of work and the large number of inquiries from South America has been most gratifying, and we look for an increase in same from that source.

The scarcity of certain fertilizer materials, previously obtained abroad, has caused the manufacturer of these commodities to get busy and develop other materials which might have gone to waste. Certain chemicals and glassware have been difficult to get, but the importers in this country have done well in supplying our needs, and glassware for special purposes has been developed that fills our needs, apparently as good for the purpose as that which formerly came from abroad.

In preparation of what we believe to be a big future, we have plans already made to nearly double our present laboratory space, which at this time amounts to about 2500 square feet of floor space.

SAMUEL W. WILEY, President.

Business Just as Dull Last Summer Before the War.

L. S. STARRETT COMPANY,
Fine Mechanical Tools,
ATHOL, MASS.

Editor Manufacturers Record:

We are not curtailing our efforts to sell our goods abroad, except on the European Continent, where, under the present conditions, it would be practically useless to send salesmen or make other efforts to obtain business. Our business in England itself is better than it was a year ago; in fact, our London store is selling about as many goods as last year, in spite of the fact that its business is confined to the British Isles alone and shipments to Germany, Belgium, etc., are entirely cut off. We think that the conclusion of the European war will tend to increase the foreign demand for our goods.

We have very little trouble in getting such materials as we need. The small amount of material which we buy from England we are able to obtain the same as before.

We are at a loss to explain the dullness in American business. That this dullness is not caused wholly by the war is shown by the fact that business was just as dull last summer before there was any indication of a war. We are inclined to think that general lack of confidence in the present administration has a good deal to do with it. This impression is strengthened by the result of the recent election, which shows rather plainly that the country wants a change.

We do not know whether sufficient emphasis has been placed or is being placed upon the quantity and quality of American-made goods suitable for American markets or not, but we believe that too much emphasis cannot be placed on those points. "Buy goods made in America" is all right, but we believe this is better: "Make goods in America of such superior quality that people will have to buy them." We do not ask people to buy our tools because they are made in America. As we have repeatedly said in our advertisements, "if you find any better tools than Starrett tools, buy them." Our aim is to make the best tools. Tools that an American in London or Berlin or Paris or Tokyo may feel proud of. Tools of such a quality that American mechanics may have no desire or use for foreign-made articles.

In regard to what we are doing in the way of preparation for the revival of trade that is bound to come, we have been piling up a stock of goods for the past year and a half, keeping our force of employes practically intact, though working on short time for the past few months, and when the revival of trade comes we have the goods.

F. E. WING, Treasurer.

Constructive Measures Needed Among All Workers and Legislators for the Upbuilding of the Industries of America.

WACHUSETT SHIRT CO.,
LEOMINSTER, MASS.

Editor Manufacturers Record:

We believe dullness in this market was set in motion by a wholesale, political, downward revision of the tariff, with no compensating advantages. That dullness has increased by a further lack of confidence in the present situation at home and abroad.

Business conditions are further hampered by the cotton situation in the South; continued readjustments to demands of labor trade monopolies, both in and out of Congress; uncertainty as to the attitude of our Government toward its own industries and the capital invested therein.

Good business will return gradually in this country as we become adjusted to the

foreign situation and adopt constructive measures ("team work") among all workers and legislators for the upbuilding of the industries of America.

FRANK J. WHITNEY, Vice-President.

Crippling of Foreign Business Has Reaction Here.

VICTOR MANUFACTURING CO.,
Automatic Fire Doors, Shutters and Trimmings,
NEWBURYPORT, MASS.

Editor Manufacturers Record:

We do no business outside of North America, and, therefore, have not been directly affected by the war.

We should certainly think there was an excuse for the sluggishness of the American markets which would be accounted for by the fact that people who do business abroad are unable to. This is true of many large concerns, especially in this vicinity. We believe the American Woolen Co. sells abroad about 25 per cent. of its product in normal times.

We also think the lack of confidence in the Democratic administration has a great deal to do with the condition of affairs.

We confess we cannot see a very bright future, as our business depends upon a class of large manufacturers, who, in turn, depend upon foreign countries for a good part of their business, and if their business is crippled it naturally hurts us.

We wish we could take a brighter view of the situation, but if you desire a candid answer this is ours.

H. A. BESSE.

Unfavorable Business Conditions and Aftermath of Vicious Legislation.

MICHIGAN STOVE CO.,
DETROIT, MICH.

Editor Manufacturers Record:

We manufacture primarily for domestic trade, and are using no special effort at this time to develop or increase our export trade. Ours is a high-priced and high-quality line that does not appeal especially, except in sporadic instances, to the general export demand, which is usually for cheaper grades.

The conclusion of the European war should increase the demand for all American products.

We use very few imported materials in our practice, and thus far have had no difficulty whatever in procuring everything that we require without delays.

The unfavorable business conditions and dullness of trade generally during the year which is just drawing to a close have, in our opinion, been the inevitable aftermath of the reduction of the tariffs and of the attacks that the administration has leveled at business through vicious legislation.

America is and always will be the market par excellence for American manufacturers. Too much emphasis cannot possibly be placed upon this fact.

We are preparing in every way possible to meet an early revival of business, to which we are confidently looking forward.

H. B. GILLESPIE, Vice-President.

Planning a More Aggressive Campaign Throughout the British Colonies.

GRAND RAPIDS DRYKILN,
GRAND RAPIDS, MICH.

Editor Manufacturers Record:

We are very much interested in your letter of December 7, and we will be even more interested in reviewing the general summary of the returns that you secure.

In reference to the promotion of foreign trade, we have not found the same quite up to standard during the past 18 months, and find same conditions throughout all parts of the world, whether it be Hamburg, Germany, Liverpool, England or Sydney, Australia.

Our line is not such that we have ever devoted any real attention to the South American territory, and so as to the present prospects or current reports on conditions in that territory we are not at all familiar.

I might add, however, that during all the years of our business in Europe, we have during the past two weeks secured by far the largest order from England that we have ever secured. Their slogan "business as usual" apparently is winning out, and we are planning on a more aggressive campaign throughout the British colonies during the coming year.

L. H. SERGENT.

Confidence to Be Restored by Return to Protective-Tariff Policy.

DAKE ENGINE CO.,
GRAND HAVEN, MICH.

Editor Manufacturers Record:

Foreign Markets—A good share of our foreign trade is secured through New York export houses, although we receive a good many inquiries and orders direct resulting from trade-paper advertising. We manufacture for this trade primarily.

Effects of War—We expect the conclusion of the European war will tend to increase the demand for our goods in the countries involved, as a considerable portion of the equipment which we manufacture is used for construction purposes.

Materials—All of the materials entering into the construction of our product are purchased here in the United States. No doubt many of the materials usually supplied from abroad will henceforth be had, either in exact formula or substitution, from American sources. If the cost will warrant it, the production of such materials in this country will no doubt be permanent, as well as greatly increased in volume, owing to the impetus given same in the way of advertising, etc., by American producers.

Cause of Dullness in American Markets—This we attribute largely to the "near-free-trade" policy instituted by our present Democratic administration, which policy, despite the war in Europe, has for the year ending October 31, 1914, increased the imports of merchandise and agricultural products into the United States, according to our Government report, \$164,863,000, an increase of 54.7 per cent. We fail to see

how it is possible for this country to increase its importations of merchandise and agricultural products by \$164,863,000 from foreign lands without displacing from our home market an equal amount of home-made merchandise and home-grown agricultural products. And this amount of importations might have been doubled had it not been for the war in Europe. Wool importations have increased 100 per cent. and wool manufactures 140 per cent. Still the retail price of woollens is as high as ever. Does this benefit the American consumer? This "near-free-trade" policy never will work in this country. It has shaken the confidence of American capital, has wrought injury upon the American manufacturer, workman and agriculturist, and the sooner we get back to the "protective-tariff" policy the better, when confidence, which is the backbone of business, will be restored.

J. P. ARMISTEAD, Secretary and General Manager.

"American Manufacturers Are Capable of Manufacturing Nearly Everything of a Quality Fully Equal to the Imported Product."

ALABASTINE COMPANY,
GRAND RAPIDS, MICH.

Editor Manufacturers Record:

You ask in what direction we are inclined to seek foreign markets for the output of our industry. Naturally, those countries in which building and interior decorating is being done rather than where buildings are being pounded to pieces with cannons, or where the people have more than they can do to supply food for their sustenance.

Our foreign trade is secondary and of minor importance compared with our domestic business.

As we are not manufacturing war supplies, we believe that the conclusion of the war and the readjustment of credits will increase our foreign demand.

Generally speaking, we are able, with the exception of certain colors, to supply our requirements in this country. Aside from colors very little of our raw product is imported.

Dullness in the American market is produced by what has been a great curtailment in the demand for steel, copper and some of the leading products, the curtailed manufacture of which has thrown a large number of men out of employment. This cannot be remedied artificially, but conditions are naturally improving.

Sufficient emphasis has not been placed on the fact that American manufacturers are capable of manufacturing nearly everything of a quality fully equal to the imported product.

The greatest opportunity, in the opinion of the writer, is an educational campaign appealing particularly to women, that will popularize the "made in United States" movement, and that will make a woman feel that she is doing a patriotic duty and securing greater value for her money when she buys a product made in the United States than she does when she buys one made in Paris.

The average man, I believe, is not so much impressed with the foreign label as the average woman.

Until Americans take pride enough in American-made products and recognize the real intrinsic value of these products, this condition cannot be brought about.

We are in ample shape to take care of any increased business when it comes.

J. L. HAMILTON, Manager.

"Legislation Hostile to Railroads More Responsible Than Anything Else for Present Dullness of Trade."

BRODERICK & BASCOM ROPE CO.,
ST. LOUIS, MO.

Editor Manufacturers Record:

The natural outlet for the manufacturers of this country is to the South. With a vast number of factories in Europe shut down and with proper financial arrangements for credit there ought to be a big demand for American products.

As I do not look for the conclusion of the European war for at least a year, the tendency to increase the foreign demand for American goods ought to be good.

Swedes ore is the basis of all high-grade steel wires, and must be imported. An excellent grade of wire is manufactured in the United States which is a good substitute, but not equal to the foreign grade. The American stock is improving right along, and the time is not far distant when as good wire will be produced in this country as abroad.

Your fourth question is the most important of all, to my mind, namely, "To what main causes do you attribute the dullness in American markets, etc." I unhesitatingly state that the legislation hostile to the railroad companies by municipal, State and the National governments is more responsible than anything else for the present dullness of trade. The tariff does cut an important figure in this case, but I think that the railroads cut a more important figure. This has been threshed out so often that I can add nothing new to your readers. Probably 90 per cent., if not more, of the railroads have been losing money by being handicapped by legislation which costs them more money to run their road, and, in addition thereto, having been compelled to advance wages without any means of recuperating their loss. With a manufacturer, if his cost is advanced, if wages are advanced, his recourse is to charge more for his product. The railroad companies are not so situated. If they are losing money, and it is clearly shown that they are, from whom will they obtain more money to keep their road in good condition and to make improvements? To my mind, if they could get the proper advance in freight rates business would commence to improve at once. The remedy I suggest is to stop all legislation that is hostile to the railroad interests and to immediately permit them to advance their rates. If this is done they will immediately commence to order the material necessary to keep their roads in first-class condition. This alone would mean the employment of hundreds of thousands of persons in different lines. It also would mean that capital would reinvest. My own idea is that this cause alone outshadows every other cause and all other causes combined.

With the exception of a small minority, the American manufacturers have not advertised their wares sufficiently enough to create a world-wide demand. We ought to present to the world goods "made in America" or "American-made goods" as indica-

tive of something superior. We ought to be just as proud of goods manufactured in America as other nations are of, say, goods "made in Germany" or "made in England."

Having now on hand the largest stock of wire rope we have ever carried, and having our warehouses full and our agencies full, we are prepared to meet the revival of trade whenever it comes. This increased stock has been produced on working little over half-time.

JOS. D. BASCOM, Secretary and Treasurer.

Lack of Confidence Goes With Contemplated Changes in Conditions.

HANDLAN-BUCK MANUFACTURING CO.,

Railroad Supplies,
ST. LOUIS, MO.

Editor Manufacturers Record:

We are manufacturers and dealers in railroad supplies. Our foreign shipments consist of signal lamps, signal lanterns, track tools, etc.

The conclusion of the European war will undoubtedly increase the foreign demand.

We are not users of materials manufactured abroad. Demand for American materials will increase materially under the proper protection.

This present period is undoubtedly an age of laws, and the accompanying lack of confidence that usually go with contemplated changes in conditions. As a remedy, believe a more liberal and reasonable consideration of industries and railroads.

We solicit the sale of our railroad material on quality only.

We have arranged our plant to take care of a double output that we have had prior to 1914.

A. H. HANDLAN, JR., Secretary and Manager.

"Obliged to Wait Until the General Conditions Are Relieved."

HYDRAULIC-PRESS BRICK CO.,

ST. LOUIS, MO.

Editor Manufacturers Record:

In the nature of the case, our foreign business is absolutely nil, and we see no means at present of developing it in any substantial way. The whole foreign situation, however, affecting the general conditions of American markets, and especially restricting the normal flow of money, very naturally affects our business. We simply are obliged to wait until the general conditions are relieved before we can expect to bring our business up to its normal levels or exceed them.

We use very few materials of importation. Some of the products cannot be secured in this country, at present at least. Others which we import could be bought here, but the prices of the foreign products are not such as to compel our seeking more favorable terms. The satisfaction which they give tends to prevent us from trying domestic products as an experiment. Thus far we have not been embarrassed by failure to get about all we want along these lines. After the opening of the Paris Bourse and the London and New York Stock Exchanges, for restricted dealing, which will restore at least a limited degree of confidence in the general currents of credit, our business will feel the benefit of the result, and it is only in proportion as the financial deadlock gives way to the normal circulation of money under a normal feeling of credit that we can expect to push our business with hope of meeting a satisfactory response.

G. C. MARS, Department of Service.

Not Affected Materially by War Conditions.

LUDLOW-SAYLOR WIRE CO.,

ST. LOUIS, MO.

Editor Manufacturers Record:

We are not affected materially by the European war conditions. Our imports are very slight, being merely machinery, for all of which we have very little use. Our export business is confined to Mexico, and that is a separate problem. That business is very satisfactory on the whole, but prices very low.

D. I. MEIER, Secretary and Treasurer.

"Strong Advertising of Foreign Goods Has Made the Market for Them."

JOSEPH DIXON CRUCIBLE CO.,

JERSEY CITY, N. J.

Editor Manufacturers Record:

The Dixon Crucible Co. is manufacturing products for all who may want them. We know that the Dixon graphite products are used in every civilized part of the entire world, but the United States takes the bulk of our production.

With the conclusion of the European war we have no doubt that our foreign business will rise again to its former height. As our foreign business was steadily increasing, presumably it will continue to increase. At the present time foreign business is practically dead not only among the warring nations, but in Latin-America as well.

We have not been able to find in the United States substitutes for all the materials usually supplied from abroad. In our line there are several materials that have been imported either because substitutes have not been found in the United States or because substitutes have not been manufactured in the United States.

As to the main causes which have produced dullness in American markets, probably we cannot do better than to quote James J. Hill's remarks made a short time ago: First, adverse legislation; second, the foreign war.

As to the quality of American-made goods, there can be no question in our minds that strong advertising of foreign goods has made the market for them. To this must be added the apparent inherited idea of the average American that foreign goods are better.

As to what we are doing in the way of preparation for a revival of trade that is bound to come, we are putting ourselves in a state of efficient preparedness.

GEO. E. LONG, Vice-president.

Waiting Watchfully for a Revival of Trade.

MORRIS MACHINE WORKS,

BALDWINVILLE, N. Y.

Editor Manufacturers Record:

We are not seeking foreign markets primarily, but as an outlet for our surplus product.

The conclusion of the European war will have little effect upon our trade, because most of the pumps which we export go to countries remote from the seat of war, and are not seriously affected by it. We send very few of our pumps to Europe.

We do not use any material in the manufacture of our pumps imported from abroad, and therefore the scarcity of certain materials does not affect us to any great extent.

We attribute the dullness in the American markets mainly to the change from one administration to another. This naturally begets caution. Good times will come when confidence is restored.

We think that all manufacturers are fully aware of the quality of American-made goods suitable for American markets.

In expectation of a revival of trade, we are following Mr. Wilson's procedure in Mexico and are waiting watchfully.

R. C. SCOTT, Secretary.

Not Dependent Upon Foreign Markets for Materials.

NEW YORK STAMPING CO.,

BROOKLYN, N. Y.

Editor Manufacturers Record:

Our export trade in all parts of the world has been directed through the commission merchants of New York city only.

We use only raw materials produced in the United States, therefore are not dependent upon the foreign markets for such.

We are doing what we have always done to meet a revival of trade, i. e., carrying a good stock of the best goods manufactured and not of shoddy articles.

T. B. EASBY.

Not Enough Emphasis Upon Quality and Quantity of American Goods for American Markets.

LOCKHART-HODGE CO., INC.,

Jones' Safety Guards,
BUFFALO, N. Y.

Editor Manufacturers Record:

Our business is confined strictly to the United States, and our patents are so limited as to keep us within this territory.

We have always been able to get all the material necessary for our goods right here in America, and there is no reason why this supply should not continue.

We attribute the dullness in American markets, as far as our product is concerned, to a number of causes. When money is tight concerns using our line of product absolutely shut down on purchases of this article, feeling that it is more or less of a luxury, where in reality it would tend to cut down the waste (by accident).

New York city, relying so much on exports, when the exports are cut down due to the war, naturally is more or less dead and is not a fertile market for our product.

We do not believe that there is anywhere near the emphasis placed upon the quantity and quality of American-made goods suitable for American markets. We are a great big nation, rich in everything and noted for our good nerve. Why should we, therefore, bow down to the "made in Germany" and "made in France" and other foreign inscriptions, while right here in United States we are capable, as has been proven in many ways, of making substitutes for goods which we heretofore thought could only be obtained outside, and are making them better and more efficiently than the other fellow.

The policy of this house in preparation for the revival of trade that is bound to come is to increase our advertising in every way. We have been putting out more advertising and more letters, circulars, etc., since the war started than we ever have done before.

S. HODGE, Vice-President and Treasurer.

America Can Supply Nearly All the Materials Required.

GENERAL VEHICLE CO.,

LONG ISLAND CITY, N. Y.

Editor Manufacturers Record:

We handle foreign business through our foreign agents and one or two connections of the General Electric Co. We are neither manufacturing primarily for foreign account nor seeking to place only our circulars abroad. The American market is more valuable to us than any other.

The conclusion of the great war will increase the foreign demand for our goods.

We find all the materials necessary for the manufacture of our goods in this country. With very few exceptions, we believe America can supply all the necessary materials for the manufacture of automobiles and automobile products.

F. NELSON CABLE, Agency and Central Station Department.

'Tis Human Nature to Desire Foreign-Made Goods.

RUGGLES-COLES ENGINEERING CO.,

NEW YORK, N. Y.

Editor Manufacturers Record:

We manufacture for either the foreign or domestic market, wherever the business may be, and do not specialize in either.

There is no question but that the conclusion of the European war will increase the demand for our goods.

We are not dependent upon importation in the manufacture of our materials.

We attribute the present depression to the European conflict, and to the interference of politics with the business interests.

We believe that sufficient importance is placed on the quantity and quality of American-made goods, but there is a tendency in all human beings to desire foreign-made goods. This tendency is just as strong abroad for goods of American manufacture as the American tendency is for foreign-made goods.

We are always prepared for any amount of trade which may be coming our way.
L. R. CHRISTIE, Treasurer.

"The Tariff Has Probably Had More to Do With Poor Business Than Any Other One Thing."

S. S. STAFFORD, INC.,
Stafford's Inks,
NEW YORK, N. Y.

Editor Manufacturers Record:

We are seeking an outlet for our goods all over the world. The conclusion of the European war will undoubtedly tend to increase the foreign demand for our goods.

Most of the raw materials entering into the manufacture of our products are imported and come from countries now at war. There is no good reason for supposing, under the present tariff regulations, that the manufacture of any of these lines should be continued after cessation of hostilities.

There is some dullness in our line at the present time, but not marked, as we deal in necessities. While we feel that the war is partly accountable, the program of Democratic legislation, we believe, has had far more to do with the dullness, which was almost as pronounced before the war, in so far as our line is concerned, as it has been since. The tariff has probably had more to do with poor business than any other one thing. This and the restrictive, confiscatory State and Federal regulations, which are imposed upon manufacturers without recourse, have a very demoralizing effect upon manufacturers' morale and does not tend to increase their confidence in the future.

We are in no way abating our efforts to secure new business, and we believe that when the war is over there will be a great era of prosperity, but do not think that this happy condition will arrive until after the war.
W. S. STAFFORD, President.

Never Cheaper to Build Than It Is Right Now.

TURNER CONSTRUCTION CO.,
Engineers and Contractors,
NEW YORK, N. Y.

Editor Manufacturers Record:

In general we feel there is no disputing the fact that business in all lines, except the few who are handling war orders, is depressed and lethargic. We are in touch with most every kind of manufacturing and warehousing, and have recently had our salesmen make a canvas of central New England. The reports, as far as immediate business is concerned, are discouraging. The average man is willing to be optimistic about everything except his own business. The feeling as regards the early spring and summer is somewhat better.

As far as our own business is concerned, viz., the construction of concrete industrial buildings, it is hard for us to believe anything but good of 1915. In the spring of 1914 there was a great volume of industrial work ready to move. Much of this was held up through over conservatism and the balance was completely killed by the war. The conditions requiring preparation of plans for these many industrial buildings are presumably in the main unchanged, and the buildings are equally necessary, if not more so, now than they were last year.

The putting into effective operation of the Federal reserve banking system, together with the increase in railroad rates, should give the necessary courage to many industrial executives to start them on their new buildings.

Regarding the building market, it was never, as far as our records show (covering some 13 years of active work), cheaper to build than it is right now. We have recently prepared some figures which show that since 1907 the cost of a typical concrete building has dropped 14 per cent. There has been a 7 per cent. drop in the cost of such buildings since August 1 last.

In view of the steady depression in the price of industrial buildings, it would seem that it would be wise for the prospective builder to award his contracts at once, as there is every indication that the cost will go up sharply with the spring boom that seems bound to come.
J. P. H. PERRY, Manager.

Have Been Able to Find Materials in This Country.

WESTINGHOUSE LAMP CO.,
NEW YORK, N. Y.

Editor Manufacturers Record:

We do not manufacture primarily for foreign account, but consider the foreign market as an outlet for our surplus production. The conclusion of the European war would tend to decrease the foreign demand for our goods.

The war has made it difficult to get some materials which we use, and we have been able to find like materials in this country. In general we see no reason why these materials cannot be supplied permanently in this country.

E. REID, Advertising Department.

Reduction of Imports Will Assist Search for Outlets in United States.

MICHAELS, STERN & CO.,
Manufacturing Clothiers,
ROCHESTER, N. Y.

Editor Manufacturers Record:

Our foreign business is very limited. We have never catered especially to any but American trade, and under the circumstances we are but little affected in the

matter of distribution in our line by the foreign situation. We are likewise handicapped to a very slight extent in our ability to obtain required raw materials.

In our opinion the dullness in the American market is due to the curtailment in business of those concerns who previously catered to a large export trade, with the consequent unemployment which such a condition must necessarily produce. Such unemployment naturally reduces the purchasing power of the masses and seriously affects all lines indirectly.

The only remedy we can suggest is that those concerns who have formerly depended on the foreign consumer for a considerable portion of their distribution endeavor to secure outlet locally. The reduction in imports due to curtailment of production abroad and difficulty in transportation will undoubtedly assist them to this end. We are not, however, convinced that any such increased outlet which they may obtain in this country can offset their former export trade.

We do not believe that too much emphasis can be placed upon the quality and quantity of the American-made goods suitable for American market.

We are doing nothing definite in the way of preparation for the revival of trade which must necessarily succeed the settlement of the present difficulties abroad except to hold ourselves in readiness to take advantage of such conditions as soon as they present themselves.
MICHAELS, STERN & Co.

Stimulating Sales Organization in Preparation for Increased Business in 1915.

ROCHESTER STAMPING CO.,
ROCHESTER, N. Y.

Editor Manufacturers Record:

We do not appeal to the foreign markets at all, and therefore war conditions have not affected our export business.

We do not believe that sufficient emphasis has been placed upon the quality of American-made goods for American markets. The people of this country, we believe, are waking up to this fact, and from now on the word "imported" will not carry the weight with purchasers that it has heretofore. We believe they will be looking for merchandise "made in America."

We are preparing for an increased business in 1915, and are stimulating our sales organization in every way we can, believing that if confidence can be restored in the minds of the retailers, as well as the manufacturers, it will go a long way toward bringing business conditions back to their normal state.

The establishing of the new banking system, the caring for the cotton crop (at least to a certain extent), as well as other actions that have been taken, including the opening of the stock exchange, will all have a tendency toward a better feeling.

L. S. FOULKES, Secretary.

Energetically Trying to Obtain as Much Trade in This Country as Possible.

GEORGIA TALC CO.,
Talc Crayons and Powdered Talc,
ASHEVILLE, N. C.

Editor Manufacturers Record:

Our business is that of mining and manufacturing talc crayons and pencils and pulverized talc. The European war has not injured our business, but we believe that our business has been better since war was declared than prior thereto, a large portion of our material being used in the large metal-working plants. Of course, we cannot tell whether it will be materially affected in the future or not, for, as you know, material used in these plants will be governed largely by the amount of work done by such businesses. We are getting quite a number of nice orders from new parties in the United States, and think that through our active efforts to secure business in the United States we will be able to get a good part of the business heretofore supplied by imported goods from Italy, Germany and France. We might say that our business is as good as we could under any reasonable conditions wish for.

Our pulverized talc, of course, does not move so rapidly, but is moving about as rapidly as it did before the war began. The freight rates enter largely into this class of our goods, the rates being so high that it hinders us from getting into the Eastern markets of the United States, yet our trade is holding about the same on this special class of goods. We have tried to interest the South American countries in our material, but so far have been unable to secure their business. We are energetically trying to secure all of the trade of the United States that we can, in the belief that if we can supply the trade that has heretofore been supplied by imported goods it will greatly help our business in the future and will displace the foreign goods.

We have a large plant, including our mines, at Chatsworth, Ga.; also are opening up new property in North Carolina. We are satisfied that if we could get anything like reasonable freight rates on our pulverized goods we could sell all the talc we could produce within the United States.

J. FRAZIER GLENN, Secretary and Treasurer.

"American Continent, With Its Great Purchasing Power, Free From All Competition."

RANDOLPH & CUMBERLAND RAILROAD,
CARTIAGE, N. C.

Editor Manufacturers Record:

Your request for opinion re the possibilities given American industry by the European war received. Is primarily addressed to manufacturers, and so I cannot answer a number of the questions. I can, in fact, but give my general opinion regarding the situation.

It has seemed to me that a great many of our manufacturers have taken the wrong field for exploitation of their goods. For, though the war has opened to us a large foreign field that heretofore we have been unable to break into, it has given us a much richer possibility right here in our own country. We now have the American continent, with its great purchasing power, free from all foreign competition, and the present is a glorious opportunity to make it an American monopoly. I am of the belief that we should first make certain of that before diverting our energies to the

conquering of new fields. We have everything within our borders that the world at large can produce, and the skill to make as fine a product as any nation. I do not think that sufficient emphasis is being placed on the quantity and quality of American goods.

There is no doubt but that our export business will be increased permanently by the war, but we should specialize in the exporting of only those goods with which we can successfully compete against the world, and not attempt to build up an artificial trade in articles that can be produced more cheaply by our warring brothers. The war is but temporary, and a trade built up only because there is no one else at the moment to supply it is not a very certain or safe thing to bank on. What we want is a carefully planned, permanent commerce in keeping with the fundamental tenets of economy.

J. R. McCONNELL, Land and Industrial Agent.

An Optimist Who Believes in Being Prepared for the Occasion.

GLAUCUS A. BRYANT,
Civil Engineer and Surveyor,
WILSON, N. C.

Editor Manufacturers Record:

Except in foodstuffs, in which the farmer is our real benefactor, and munitions of war, with over half the world at war to which this country formerly exported her bountiful supplies, it is inconceivable that the balance of the world could so quickly take off our hands the vast amount of manufactured articles of luxuries, of which warring, starving, hungered men and women fighting for their natural existence, have no use.

Assemble the neutral nations together in a representative convention body that they may try to formulate some plan of mediation and otherwise attempt a peaceful termination of the cruel conflict, or agree to throw open wide the doors, ports and harbors of the respective neutral nations to all belligerent and warring nations.

A close and strictly-guarded embargo of munitions of war by our nation toward the European belligerents, in my opinion, would not only paralyze business as a whole in this country, but it would cause suffering and hardships in our midst as is now found in Belgium.

I do not believe that there is enough money in circulation in the South. A glance at your newspaper exchanges will show the conditions by the appearances of the advertised sales of lands caused by low prices for produce as compared with previous years and the actual cost of production.

I know that I am an optimist and believe in progressive ideas. Today is upon us and we have not time to prepare for it. Yesterday is gone. Tomorrow is the great unknown future into which we must seek our livelihood, and we can only do so by our actions of the time always uppermost, profiting by our misdeeds of the past.

I believe that the next year will be one of prosperity for the manufacturer, the farmer and the workingman.

Should there come a wave of prosperity, as I believe there will, I shall try to be ready personally for it.

Should any of this letter be of benefit to you, I will be glad that I have been of some service to you and your publication and to my own country through you.

GLAUCUS A. BRYANT.

Benefits Already Felt From Increase Freight Rates Allowed.

THE KNIGHT MANUFACTURING CO.,
Sawmill Machinery,
CANTON, O.

Editor Manufacturers Record:

There was a natural slowness previous to the opening of the war in Europe, and, therefore, only augmented by the loss of European shipments, which kept all things backward, and we are convinced beyond a doubt that there was a cause previous to the war conditions to account for the general sluggishness in the market in this respect. This may probably be found in the denial on the part of the Government of the additional freight rates of 5 per cent., since then allowed. That the same will have a decided effect upon the general conditions of trade has already been demonstrated by increased orders, the seeming result of long-awaited action in this respect on which many orders were based. The railroads are effective in a great many respects which the public does not seem to realize.

F. H. SIGRIST.

Few American Manufacturers Willing to Take Trouble to Gain Foreign Business.

THE CINCINNATI MANUFACTURING CO.,
Ornamental Iron and Bronze,
CINCINNATI, O.

Editor Manufacturers Record:

We do very little foreign business. We have not had any difficulty in getting all material which we require in this country. We attribute the dullness of the American markets to the Democratic administration, Democratic tariff and the Democratic attitude towards business men. We believe that the hard-working, honest business men of this country should be encouraged. We do not believe that after the European war is over that we will be able to hold a great deal of the South American trade which we may get. Our markets at home are easier to reach, and very few of the American manufacturers are willing to go to the trouble and take the time necessary to develop foreign trade.

H. H. SUDAM.

Prepared for Any Revival That Is Likely.

THE HOUSTON, STANWOOD & GAMBLE COMPANY,
Steam Engines and Boilers,
CINCINNATI, O.

Editor Manufacturers Record:

With our present line it is necessary, in seeking foreign trade, to consider new countries, such as Canada, the West Indies, Mexico, South America, Siberia, China,

Australia, Russia and Africa. Of these countries Canada, the West Indies, Mexico, South America, Siberia, China and Russia are prospective markets for business in relative amounts about in the order named (for our line).

Conclusion of the European war will tend to increase the foreign demand for our goods.

We use no imported materials directly, but the steel and iron manufacturers have lacked manganese, we understand.

As to the causes of the economic inactivity in this country prior to the European war, they do not seem to be understood very thoroughly. The war affects us most through the reduced foreign demand for cotton and lumber and through stoppage of phosphate shipments, etc. There is no foreign competition in our domestic market in our line, the domestic competition being destructive.

We have facilities for a larger trade than we have ever received, and are prepared for any revival that is likely.

H. M. HOUSTON, Secretary and Treasurer.

Preparing to Take Care of a Large Volume of Business That Is to Come.

WEIR FROG CO.,
CINCINNATI, O.

Editor Manufacturers Record:

I think the work which you are doing in compiling statistics is a very excellent one, and I should judge that the data collected should be of value.

We confine our efforts almost entirely to supplying the railroads of the United States, so that I can give you no data which would be of value on the foreign situation. All our raw materials are and have been supplied within the United States.

There is no use in my going into a discussion as to the cause of dullness in our line of business. We deal almost entirely with the railroads, and the cause of this present depressed condition in the railroad supply business has been too generally discussed in the newspapers to need further comment.

I do not believe that sufficient emphasis has been placed or is being placed on the quantity and quality of American-made goods suitable for American markets. There is a trend in that direction at the present time, but I feel that every endeavor to further the emphasis of "made in America" will be of great value to American manufacturers, and if this slogan comes to be appreciated and its value realized, I feel sure that it will be of inestimable value to American manufacturers.

I am pleased to say, as president of this company, we feel a very marked optimism as to the future. I do not mean the immediate future, because I have no optimism as to that, but we do feel that trade will return in our line of business, and in even greater volume than we have ever had in the past. For this reason we are preparing ourselves in every way possible to take care of a large volume of business which we feel sure is coming to us. While we are, of course, effecting economy in every department at the present time, we are expending unlimited energy in expanding for the future.

O. DE G. VANDERBILT, JR., President.

"No More Legislation Against the Industrial Welfare of the United States."

THE C. O. BARLETT & SNOW COMPANY,
Engineers,
CLEVELAND, O.

Editor Manufacturers Record:

Let us state that we buy French buhr stones. We are unable to get any of these, and there is a very serious shortage. We also look for some trouble in regard to getting bolting cloth, although there has been no serious trouble yet.

The writer has repeatedly been asked as to his opinion of the business conditions at the present time, and for your information we are taking the liberty of writing you as follows:

In our opinion, there seems to be no reasonable doubt but what the business conditions are getting better every day. There are several reasons for this, the best of all being that the American people have finally wakened up to the fact that it is not to their own interests to everlastingly legislate against the business interests of their own country. There has been a regular mania for doing this during the last few years. The people are finally waking up to the fact that they are simply killing "the goose that laid the golden egg."

The railroads are very large consumers, using nearly 50 per cent. of all the iron and steel made. They have been compelled to cut down their cost of repairs, new equipment, etc., to the very last point. Now their main tracks are wearing out and they soon must commence, and in fact have already commenced, to buy largely. This will help the iron and steel industries a great deal.

We are having pretty good crops as a whole throughout the United States. The terrible war in Europe will lose the exporters of those countries a large amount of business. It will naturally come to the United States, and with our present financial arrangements, which enables the national banks to do business in other countries, we look for a decided increase along this line. Again, the Mexican war is coming to an end. This country is very rich in mineral and agricultural lines, and the opportunity to supply the wants there will largely come to the United States. As a whole, we look for a very prosperous year for 1915.

Let the slogan of every business man be "No more legislation against the industrial welfare of the United States." If the business men will once wake up and take a little more interest in political affairs, it will be an important factor to the welfare of all kinds of industries.

C. O. BARLETT, President.

Cannot Import Raw Material at Present.

THE FEDERAL GRAPHITE MILLS,
CLEVELAND, O.

Editor Manufacturers Record:

We have been working the export field for the past year, and it is coming very slow, so we really cannot say the war has affected our export business. On the other hand, it has affected us in imports on raw material, as we cannot at the present time

import graphite either from Canada or from Ceylon, as they are both under British control, and they will not allow exports of graphite at the present time.

W. H. GUSCOTT, Assistant Manager.

Greater Familiarity With the New Bank System Will Help Matters.

THE NEW FIRST NATIONAL BANK,
COLUMBUS, O.

Editor Manufacturers Record:

Our advertising, as you are aware, is of our bond department, and in this we do not seek any foreign market, confining our activities largely to Ohio, but somewhat in a general way we cover the United States through our advertisements.

As to whether the conclusion of the European war will tend to increase or decrease the foreign demand for our goods seems to us to depend largely upon the duration of the war. If the war goes on for six months or a year, it would seem to us that there will be an increase in foreign demand until they can recover from the tremendous financial loss and educate to a large extent a new corps of operators for the production of the goods which they formerly manufactured.

If American manufacturers set themselves about manufacturing the articles which they have formerly imported, we see no reason why we cannot produce materials equal to the former European standard, but probably cannot produce them as cheaply as Europe was able to do with their cheap labor. What the future holds for Europe in the matter of its wage-earners, and in the wages they will command, seems to us largely contingent upon the duration of the war.

We believe the main causes for the present dullness lies in the uncertainty of the European situation and its reflex action upon us, and our becoming accustomed to the conditions which prevail and working out our destiny without a great portion of the help which we have formerly had from Europe. We do not believe that sufficient emphasis has been placed upon the quality of American-made goods, for we find a great many people have laid great stress on certain articles being "imported," implying that this is an evidence of their superiority.

We believe that the revival in trade has already started, and that as soon as we become more familiar with the present banking system we will be better able to cope with the situation. Irrespective of any argument between the merits of the old and new banking laws, it seems to us obvious that any change is bound to bring about a certain degree of uncertainty and timidity, which only the practical working out of the new system will allay. With this out of the way, we believe that, if we can keep clear of any political entanglement, we are due for great expansion and for one of the most prosperous periods in the history of our country.

We do not believe that we have added anything new to what you have already expressed in your excellent publication, but are very glad, indeed, to answer, as best we can, your inquiry.

W. G. SCOTT.

Very Little Direct Influence in the European War.

THE MASSILLON IRON & STEEL CO.,
MASSILLON, O.

Editor Manufacturers Record:

Our interest in foreign markets is indirect only, as we are not so located as to permit of exporting.

In our opinion, the European war has very little direct influence on our business, although the depression which prevails in the entire iron and steel market applies to our product also.

J. R. DANGLE,

Secretary and Assistant Treasurer.

How Municipal Activities in Times of Stress Bridge Over Difficulties.

THE CARLYLE PAVING BRICK CO.,
PORTSMOUTH, O.

Editor Manufacturers Record:

We have never attempted to secure any foreign business, and doubt the advisability of our company securing any business outside the United States.

Business seems to be dull in a good many lines, for which a good many reasons are given, but probably the European war and the change in tariff are the principal reasons. Our line of business is peculiar, from the fact that it improves often during a depression or when men are idle in other lines. This is due to the fact that municipalities and others using brick attempt to keep men employed by building streets when a depression in business occurs.

G. E. CARLYLE, President.

Time That the Manufacturers' Side of the Case Should Be Presented.

THE SIDNEY STEEL SCRAPER CO.,
SIDNEY, O.

Editor Manufacturers Record:

We desire to express our appreciation of your comments on the New York Herald's suggested revision of the anti-trust law as related to our foreign trade, and also of your editorial under the heading "Does Congress Want to Revive National Prosperity?" Your editorials are always broad-minded and far-seeing, and it would be well if our legislators would be guided by them.

There never was a more opportune time than the present for high-class industrial publications to start an educational campaign that will bring the people, the Government and the business interests of the country into proper attitudes toward each other.

Being of an optimistic turn of mind, and inclined to find some good in everything, we are inclined to believe that the hopeful feature of the recent or present business depression is the fact that the laboring class has come to realize that legislation that is detrimental to the interests of the employer is doubly hard on the employee. We surely have come to the turn of the lane.

We Americans are constantly finding out and naively admitting that we have grossly erred in our methods. We are all familiar with the parable of the "Prodigal

Son," but there is still an abundance in sight, and we have not stopped to consider the costliness of our mistakes. Just now, it is true, we are enthusiastic over the theories of economic efficiency, but are we putting them into practice?

Our manufacturing industries are the very foundation of our commercial structure. Every act of legislation that restricts our manufacturing interests restricts the prosperity of the nation and its individuals.

In the past few years we have awakened to the importance of agricultural development, and the agriculturist is now being given every possible assistance to successful achievement. This is as it should be, but why discriminate against the manufacturer, and, indirectly, against the wage-earner in the factory? If the latter cannot work full time and receive reasonable compensation, who will consume the surplus product of the farm?

If we could trace the origin of the hostility to "combinations" or trusts, we would doubtless find that the first little flame was started by an anarchistic walking delegate or by some cheap politician who thought to win personal favor by inciting in the minds of the "masses" envy and spite toward the "capitalist." This little flame has grown into a great conflagration which has dazzled our eyes and blinded us to its attendant evils. While the attention of the legislators and the general public has been absorbed by anti-trust legislation, there has been an unorganized but nevertheless effective combination of distributors and consumers who keep forcing the prices of manufactured articles lower and lower. This pressure upon the manufacturers forces them into competition and unwarrantable price-cutting that is far more damaging in its effect than a combination to hold up prices would be. We believe that the bankers of the country will confirm this statement.

It is time that the manufacturers' side of the case should be presented.

C. E. PERRY, Sales Manager.

Manufacturers and Capitalists Are Waiting for Opportunity to Invest Without Legislative Dictation.

D. L. CASEY MACHINE CO.,
SPRINGFIELD, O.

Editor Manufacturers Record:

In regard to the European war affecting the American manufacturers, the effects which the manufacturers have been feeling existed before the European war was thought of. Three years ago there was more business than could be satisfactorily taken care of in this country. All the manufacturing establishments were crowded with work. During that period there was a war of labor trouble which caused the ordinary manufacturer and business man to sit up and take notice and look out for No. 1. We do not think it is necessary to explain to you in regard to the present depression in business. We know that you are well aware of the fact.

If a bunch of men were banded together to make laws and regulate your business to suit themselves, right there and then you would make arrangements for a getting-off point. That is what the manufacturers and capitalists of this country has done. They have stepped off and out and are waiting for business to come back on a standard basis so that they can invest their money themselves and will not be dictated to by legislation or anybody. You state the question of What are you doing in preparation for the revival of trade that is bound to come? We will state that we are waiting at the pier and ready at any moment that the business puts in its appearance; furthermore, we will say that the MANUFACTURERS RECORD has tried every means to avert the storm in the distress of business, but it seems to be of no avail. The time for rest has come, and the only thing that we can do is to let the business affairs adjust themselves. It begins to look like the more they adjust the situation the quieter business is getting. The only object ahead of us at the present time that we are all waiting on is the return of prosperity.

D. L. CASEY, President.

Main Cause of Dullness in American Markets Not Lack of Demand in Those Markets.

KEYSTONE DRILLER CO.,
BEAVER FALLS, PA.

Editor Manufacturers Record:

We do not believe that the present is the psychological time for trying to manufacture a demand for American goods among the nations that are at war. They are too busy with other things.

We do not believe that the European war will increase the demand for our goods abroad. Some lines of goods will find a stimulated market, but we do not happen to be in any of those lines.

We have found no trouble in getting material in our own market for all our requirements.

We believe the main cause of the dullness in American markets is due to the nervous excitement caused by the war in Europe, not to any lack of demand in our own markets, and we believe that with the turn of the year there will be a great betterment of trade in America. People are getting used to the war and are giving it less attention than two or three months ago. In the way of preparation for a revival of trade, which you hopefully say is bound to come, we are simply putting our factories in first-class shape to take care of it when it comes.

KEYSTONE DRILLER CO.

Putting the Plant in Order for Increased Business That is Bound to Come.

RAYMOND MANUFACTURING CO.,
CORRY, PA.

Editor Manufacturers Record:

We do very little export business, indeed, excepting in Canada, as our line is the manufacture of springs to order for machinery manufacturers and other producers.

Our requirements for material from abroad are very small, as nearly everything in our business is produced in this country, fully as good or better than in Europe.

Some customers have been demanding foreign wire for some grades of springs,

and, of course, when so demanded we have used it, although our experience has been that the foreign material is no better than the domestic stock.

We believe the present dullness in the American market is on account of the uncertainty caused by the European war, customers buying very much less freely on this account.

We are improving the opportunity and putting our plant in first-class shape, doing any necessary repairing, etc., so that we will be ready for increased business which is bound to come within a few months. F. E. WHITTLESEY, Secretary.

"Let the 'Big Fellow' Start Placing Orders and the Rest Will Follow."

EAST BANGOR CONSOLIDATED SLATE CO.,
EAST BANGOR, PA.

Editor Manufacturers Record:

Our manufacture of slate is mainly for home consumption. Our foreign shipments take surplus stock at reduced prices. With a shortage of foreign slates, better prices should be had.

Increase.

Not affected by slate imports.

Lack of confidence and too much legislation. Remedy: Let the "big fellows" start placing orders and the rest will follow.

No.

Are advertisers and have a large stock on hand to meet the demand when it comes. WM. J. SLEEMAN, Secretary.

"We Spend More Time Looking for Boogy Men Than in Efforts to Restore Confidence."

MATHEWS GRAVITY CARRIER CO.,
ELLWOOD CITY, PA.

Editor Manufacturers Record:

You put up to us some complex questions, and in making an effort to answer them we fear that our statements will have little merit beyond mere expressions of opinion.

We heartily agree with your view that much of the business "sluggishness" during the past year was uncalled for. Business activity has not been affected as much by what has actually happened as by the universal fear of possible things which might happen. This fear of ills that are dreamed of and looked upon as imminent in times of national unrest is the real cause of creating conditions which could be but little worse if those ills had really overtaken us.

Your first question does not apply to us, as we manufacture primarily for home consumption. We have two branch factories manufacturing under our patents, one in Toronto, Ont., the other in London, England. These two establishments are, of course, directly affected by the war, especially the latter. Our American factory has no foreign market outside of the countries of South America, exclusive of Argentina.

In answering your second question, the foregoing will indicate the fact that while the continuance of the European war, or its conclusion, has no direct bearing upon our business, we are nevertheless in close contact with its influence as they affect our American market. The volume of our business is governed entirely by the degree of prosperity which is enjoyed by home industries. The demand for our line of conveying machinery is affected directly by their activity and ability to purchase needed equipment. The conclusion of the war will not, in our opinion, have the immediate effect of curtailing demand for American goods, but it is reasonable to believe that in the course of time European countries will have sufficiently recovered from its disastrous effects to take care of their home needs and foreign commerce. How much of this trade we can continue to hold is a question not easily answered. It depends on how well we stand the comparison of goods, prices and service.

Your third question, like the first, does not apply to us, as all of our raw materials are, and always have been, purchased from American manufacturers.

The main causes of dullness in American markets, as stated above, is largely attributable to a disinclination to buy needed supplies and equipment, a stoppage of building operations and a postponement of improvements and betterments, all because we spend more time looking for boogy men than we do in efforts to restore confidence and normal conditions. The remedy lies with ourselves. Prosperity can be restored by applying inversely the forces which produced business stagnation. When Jones ceases to buy what he needs, Smith, Williams and Johnson suffer, because Jones is no longer a consumer. This reduces the purchasing power of Smith, Williams and Johnson, and Bailey and Murphy and Davis suffer in their turn. And so on, until you have the whole country involved in an endless chain of trouble. Then the banks get stage fright and add to our griefs by calling in loans, shutting off the money supply or raising the interest rates out of sight. The only thing to do now is to back up and recover prosperity in the same way that we lost it. If enough Joneses start buying again, it won't take the rest of us long to get the habit.

The majority of American manufacturers have not given the same studious attention to their market that they have bestowed upon their product. Those who have are the dominant figures in the business world today, and their success is due to having discovered where their product is needed and in developing an organization capable of finding consumers for a constantly-increasing output.

Most of us are contented with a business which will keep us a little more than solvent. Others spend time and money analyzing foreign markets when they should be cultivating more intensively their home fields. Much of this foreign buying by American wholesalers and retailers originally started as a "stunt"—a merchandising "scoop," as it were. The practice grew because contemporary rivals caught the idea that foreign labels found readier sale and bigger prices than similar goods of equal quality made in America. American consumers, as a rule, do not demand foreign goods. Their wants are reasonable and they would be just as well satisfied with the products of our manufacturers. The remedy lies with our importers, and now is the proper time to rid our country of a host of foreign-made articles which can be produced by American capital and American labor just as good and marketed cheaper.

The power of advertising must also be applied to the education of American consumers. We are a people who respond quickly to the appeal of logic, fair argument and patriotic sentiment.

As far as we are concerned we have not, at any moment before or since the European war, recognized the influences which have worked against a continuation of normal business conditions. We have not allowed them to interfere with our plans in the least. We have not cancelled a single advertising contract. We have kept our selling organization intact and constantly at work. We have made improvements that were necessary, and have bought raw materials in the usual quantities. We have not made the mistake of crippling our business or losing our hard-won prestige by yielding to the almost universal plan of senseless retrenchment. In this way we have maintained our entire organization up to normal efficiency, and we will have no lost ground to recover when the boom comes. This policy, therefore, precludes the necessity for making extra preparations for a revival of trade. We have been and are now ready for it. A. F. N. THOMAS, Sales Department.

Dullness Attributed to Attitude of Interstate Commerce Commission.

BELMONT IRON WORKS,
PHILADELPHIA, PA.

Editor Manufacturers Record:

We would like to increase our sales of structural steel for buildings and bridges in Central and South America.

The conclusion of the war will not affect the demand for our product.

We do not use any materials imported from abroad.

The attitude of the Interstate Commerce Commission. [Cause of dullness in American markets.]

Yes. [Sufficient emphasis upon American goods for American market.]

With our present facilities, we can take care of practically all of the business that may be offered to us. H. B. HIRSH, Vice-President and General Manager.

Dullness Attributed to Legislation Adversely Affecting Business.

WILLIAM SELLERS & CO.,
PHILADELPHIA, PA.

Editor Manufacturers Record:

The editorials in the main meet our hearty approbation, especially your references to legislation injuring business enterprises, affecting the railways, and your criticism of the last tariff.

We have always sought and will continue to seek foreign markets, but we are not dependent thereon primarily or to place a surplus output. Under normal conditions of business our product is absorbed here. Whether the conclusion of the war abroad will increase or decrease demand from there for our product we cannot say.

We have been able to find in this country all the materials we require for our business, and we see no reason why this condition shall not continue.

We attribute the dullness in our lines at present and for some time past to the adverse legislation affecting business, the railways, the tariff, and in manufacturing and the public utilities the attitude of the labor organizations.

We think the questions as to quantity and quality of American-made goods for American markets will take care of themselves.

We recently acquired a large tract of land near Philadelphia for an extension of our works, and, but for the business conditions above referred to, we should already have erected new buildings and moved certain of our departments there, which in turn would have permitted us to use the land and buildings thus vacated here for increasing the capacity of others of our departments.

J. H. SCHWACKE, Manager.

"American Manufacturers Have Not Emphasized Enough on American-Made Goods for American Markets."

L. F. SEYFERT'S SONS,
Engines, Boilers, Pumps, etc.,
PHILADELPHIA, PA.

Editor Manufacturers Record:

We must confess that we are all at sea in regard to just what we may expect in the near future. We have had our theories as to the "causes" of prevailing sluggishness, which have been upset one by one. Each of these "causes" have been apparently cleared away, only to find that there was some other reason for further retrenchment.

We do not believe that American manufacturers have emphasized enough on American-made goods for this market. We believe that there is a large percentage of the people who would buy American-made goods in preference to that made in other countries, providing, of course, that quality and prices were equal. At present it is many times difficult to know actually whether you are purchasing American-made goods or not.

We, with others, of course, know positively that a revival is bound to come, and look for it in the early part of next year. We feel that we are prepared in the way of stock for the arrival of the happy turn of affairs. W. P. POTTER.

Much of the Present Check to Business Seems Unnecessary.

HYDE BROTHERS & CO.,
Steam Plants and General Engineering,
PITTSBURGH, PA.

Editor Manufacturers Record:

We find a very marked indisposition among mining and manufacturing companies to place any orders for boilers and other steam equipment in which we are interested. We are, however, receiving inquiries from abroad for billets and sheet bars, but owing to the high steamship rates it is difficult to compete with the English manufacturers.

For anyone who is able to properly finance their enterprises the present would seem

to be a good time to carry out extensions and make preparations for the anticipated improvement in business. The very fact of making these extensions and developments would in itself create immediate improvement in business and result later to the advantage of those who have the courage to spend their money when business is dull, and the money will accomplish much more. This was Carnegie's policy, and his success was due to foresight of this kind rather than to exploiting labor, of which the agitators are fond of accusing him.

Much of the present check to business seems unnecessary, and, as President Wilson would say, is psychological. Basic conditions are sound, and the way to improve business is to get busy.

HYDE BROTHERS & CO.

"Give and Take" Policy Necessary in Extending Foreign Trade.

STANDARD SANITARY MANUFACTURING CO.,

PITTSBURGH, PA.

Editor Manufacturers Record:

The first effects of the European war were a world-wide scare, caused by the sudden paralyzing of exports, not only to the nations at war, but to the rest of Europe; in fact, to almost all the countries on the globe; revolution of financial or banking conditions and the consequent suspension or cancellation of most pending orders, not to mention the serious interruption of many steamship connections to many parts of the world. Even several months previous to the outbreak of the war quite a few countries, in South America especially, were suffering under financial depression, which became acute when hostilities were declared.

It is only now, after a lapse of almost half a year, that something of an improvement is beginning to show itself, but even so business abroad on a whole is far from normal. Quite a few countries have moratoria still in force, some of them for months to come, and many concerns hitherto prompt payers and of good sound standing are experiencing difficulties in meeting their engagements. One case has come to our attention in South America of a firm who have the money and are prepared to pay, but cannot do so, as no banker there will issue drafts on foreign countries.

The war cannot fail to curtail European exports, particularly German, so that when conditions abroad become more settled (and this should follow during 1915), the logical result should be an increased demand for many American products. At the same time, however, it should not be overlooked that the situation should be regarded from both sides, namely, that every effort should be made to assist our foreign friends to dispose of their wares, otherwise it would be a selfish or one-sided proposition. We must remember that to be able to buy and pay, they must be in a position to sell; in other words, to market their products. So far they transacted this part of their business principally in Europe. Europe also financed many of their loans. To facilitate matters, to attract foreign buyers to the United States, efforts should be made to meet these conditions as far as possible which formerly existed between foreign nations and Europe. Reasonable credit terms should also be offered. The iron-bound rule of "cash with order," practically never asked by European manufacturers, cannot be enforced; to do so would drive business away. Naturally credits must be opened with discretion, and innumerable buyers will be found worthy of every consideration.

Summed up, the situation will become one of give and take. Mutual confidence and mutual assistance alone will lead to establishing a profitable and increasing market for American goods, one that there is every reason to believe will prove of lasting benefit to our manufacturers. F. R. JOHNSON, Manager Export Department.

"Present Business Depression Is World-Wide."

E. KEELER COMPANY,
Manufacturers of Boilers,
WILLIAMSPORT, PA.

Editor Manufacturers Record:

Our export business is only of secondary importance, the bulk of it going to Mexico, South America and the Orient. It is our impression that the war will tend to increase the foreign demand in the market which we cover.

We use exclusively American materials in manufacturing our product.

We believe that the present business depression is world-wide, and that such periods of dullness will always occur at irregular intervals as a natural resultant of a previous activity. A continuous prosperity with business running at high pressure would result in an overproduction that would be far more disastrous than alternating periods of activity and dullness. We feel that business depression is the result of natural law, and is not attributable to any particular set of circumstances.

We believe that American goods as such should be more conspicuously advertised than heretofore.

F. T. MOORE, Treasurer.

An Analysis of the Stages in the Waning of Prosperity in This Country.

THEODORE W. FOSTER & BRO. CO.,
Manufacturing Jewelers,
PROVIDENCE, R. I.

Editor Manufacturers Record:

From the time Roosevelt split the Republican party and it became evident that there was to be a change in the administration, prosperity in this country began to wane. With the election of the present administration and with the development of the Democratic tariff measure there has been a steady shrinkage in business throughout the United States.

The large and small business men and the thoughtful people of this country lost all confidence in the present administration. You cannot attempt to define it; you can simply look at the facts that the people lost confidence in them, and within a very few months from the time it was evident that there was to be a change of administration,

thoughtful people on salaries and working for a living began to save up their money, fearing there would be hard times, and the expenditure of money grew less and less, until the stores began to feel it and notice a lessening in their sales.

The increase in the quantity of foreign goods coming into this country was noted, and manufacturers and merchants did not dare lift their reins, crack their whips and drive their business, as had been done in years past; they simply put their brakes on and waited. Business grew steadily worse. The low rates of duty collected by the custom-houses caused a great shrinkage in the receipts, and the Government was \$100,000,000 behind. The country noted this and was frightened. Finally the war broke out, and the administration seized this as an excuse for a war tax. As the war progressed all kinds of business became stagnant, and active business men began to figure out some readjustment to enable them to continue the use of their large investments and their valuable plants.

Foreign nations had the blasting influences of war upon them, and they felt that they must spend money only for absolute necessities of life. There are millions without employment.

This country is being called upon to supply some war material, and that covers foodstuffs, clothing, ammunition and such like, but it will be a long time before the world begins to need machinery and the products of the factories of the United States. They first need food and raiment, and gradually the demand will increase, but what can bring about a demand for jewelry, silverware, files, gimlet pointed screws, steel tools and thousands upon thousands of articles made in this country which can be used in general throughout the world?

Most of the world is at present engaged in trying to save themselves from total annihilation by the mad dog of Europe. How can we expect a return of prosperous times in this country when business of all kinds must be more or less readjusted, with a perfect lack of confidence in the future, with nothing to cause a return of that buoyancy of spirit and the feeling of safety in spending money. Therefore, heads of families are economizing, and it will be a long time before the enormous variety and quantities of stuff that are made in the factories of this country will have a liberal demand.

With the war lasting through next year, this country will have to supply enormous quantities of material of all kinds, gold will begin to flow in here, and we will have, perhaps, a season of flush times. Then when the war ends the demand from abroad will stop, foreigners will begin to make goods, and workmen will return at bread-and-butter prices, thankful to get half the wages they formerly received. Goods will be made so cheaply abroad that, if our duty remains as it is now, we will be buried with foreign goods within a year after the war stops. If we could get a readjustment of the tariff to a higher plane before the war ends, we would be in fair shape to go on manufacturing goods for our own market, but the world is going to be poorer than it has been in 200 years, and the United States cannot expect to escape the result of that poverty.

T. W. FOSTER, President and Treasurer.

America Already the Foremost Country in the World in This Line.

HUGHES SPECIALTY WELL DRILLING CO.,
CHARLESTON, S. C.

Editor Manufacturers Record:

The questions do not apply to our business, we being contractors, and not manufacturers. We do believe, however, that at the conclusion of the European war our business will be materially increased by the demands created for products in other lines which will indirectly increase our business.

The products used by us are manufactured entirely in this country; in fact, we might say that America is the foremost country in the world in well drilling and the manufacture of products relative thereto, and is a large exporter in this line. We understand that the most extensive well-drilling operations carried on in foreign countries derive their supplies and drillers from America until they get the local men drilled in. There is a large foreign field for drilling equipment, and some of our large houses, such as Oil Well Supply Co., National Supply Co. and Southern Well Works, are large exporters; we presume that their business has been materially affected by the war. There is some dullness in our business occasioned by lack of market for bonds for municipal work, of which we do a large share.

WILLIAM E. HUGHES, President.

Signs of Improvements Already Noted.

WESTON & BROOKER, INC.,
Engineers and Contractors,
COLUMBIA, S. C.

Editor Manufacturers Record:

None of our products are shipped to foreign markets, therefore we have no information to give. We will say, however, that we are hopeful for early development, and see some signs of improvement in our territory, North Carolina, South Carolina, Georgia and Florida.

T. I. WESTON, President and Treasurer.

Enterprises Halted by Inability to Dispose of Bonds.

HENRY E. ELROD,
Engineer,
DALLAS, TEX.

Editor Manufacturers Record:

Inasmuch as my profession is that of consulting engineer, I am hardly in a position to give you the information you desire. In Texas, and Texas is the limit of my activities, practically all engineering enterprises have been abandoned for the present, on account of the lack of ability to dispose of bonds. I look for an improvement in conditions with the coming of spring, and am sure that Texas has ahead of it an era of prosperity the like of which has never before been enjoyed by this State.

Mistakes Made in Efforts to Push Foreign Trade.

KING LUMBER CO.,
Contractors and Builders,
CHARLOTTESVILLE, VA.

Editor Manufacturers Record:

The sole and only cause of the present depression is entirely due to the fact that capital is timid and has been withdrawn from circulation owing to the uncertainty created by the European war.

The conclusion of the European war should tend to largely increase the foreign demand for our goods. We say this owing to the fact that it gives us the opportunity to establish their worth.

We believe that sufficient emphasis has been given the quantity and quality of American-made goods suitable for American markets, but not of American-made goods suitable for foreign markets. In other words, the American manufacturer has tried to ram his ideas down the foreign throat instead of catering to the foreign wishes. More attention to foreign likes and dislikes and careful packing would greatly increase our over-sea trade.

We, of course, gather this from what we read largely in the consular reports.

J. P. HAWKINS, JR., Treasurer.
HENRY E. ELROD.

Until There is Assurance of a Different Government Attitude, There is No Incentive to Planning.

PORTSMOUTH COTTON OIL REFINING CORP.,
PORTSMOUTH, VA.

Editor Manufacturers Record:

We are exporting to most all the foreign markets, and are ready to sell anywhere so long as satisfactory arrangements can be made for payment for our goods.

We have been unable to find in America substitutes for many materials that come from abroad, and we doubt that it can be done for exactly the same reason that it is impossible for the North to produce some articles that are raised in the South, and vice versa. Europe can produce certain articles much better and cheaper than we can, and we on our side can produce others much better and cheaper, depending on natural resources and possibilities.

I attribute the dullness in the markets at present in the first place to unwarranted attacks on the business in this country on the part of the Government, attacks which kill the enterprising spirit, and in the second place to an inefficient Government in Washington. The business man in this country does not get the help from his State Department such as is the case with the foreign business man, who receives all the help in the world from his Government. If, therefore, we succeed in doing an export business, it is rather in spite of our Government than because of it. This is specially the case during the past year, and I can only suggest as a remedy for same a different Government view of things. I don't belong to any party opposed to the Democrats, such as Republican or Progressive, so I have no political axe to grind.

We are ready to take any trade that comes our way, but the outlook is too uncertain, and until we get more assurance of different treatment from our Government there is no incentive for planning anything whatsoever.

JOHN ASPEGREN, President, New York.

Prepared to Take Care of Any Trade That May Come.

SYDNOR PUMP & WELL CO.,
RICHMOND, VA.

Editor Manufacturers Record:

We are not inclined to seek foreign markets for our output, as it is of such a nature as to make it necessary for us to restrict ourselves to a local market.

We have no trouble in getting any of the material which we buy in this country, and do not expect to have any.

Business is dull with us, primarily on account of the war, secondarily on account of low-price cotton, and thirdly because business generally has not recovered from the dull period which has covered about a year past.

We have no reason to criticize the American manufacturers on this point. [Making known their products.]

We are prepared to take care of any trade which might come to us now or any coming to us at any time in the future.

C. F. COLE, Secretary.

American Manufacturers Should Make Themselves Agreeable to Latin-American Countries.

VILTER MANUFACTURING CO.,
MILWAUKEE, WIS.

Editor Manufacturers Record:

We have been doing a limited amount of foreign business, and more so before the war than since the war started. We think that the ending of the war will increase our export business.

We are not using material from foreign countries in the manufacture of our goods only to a very limited amount.

The dullness in the American markets is principally caused by over-legislation in Washington, and in the different States, and by the time the manufacturer gets acquainted with the new laws they have another one, and it keeps the manufacturer busy keeping track of all the laws, and he has no time to think about his own business. I am sure the business would revive rapidly if this could be accomplished.

The American manufacturer as a usual thing does not make himself agreeable to the Latin-American countries, because the American does not believe in learning languages, and that has been the secret of the European manufacturer. When he sends a salesman into Latin-American countries the salesman can talk Spanish, and in that way he gets confidence of the Latin-American people, but the American salesman he

drops in there and says: "Why in H— don't you talk United States?" That is where the biggest mistake is made by the American manufacturer.

The preparation for revival of trade is that we first have to look to the bankers, because money during the entire summer has been too costly and the manufacturers could not afford to buy money for investment purposes for new enterprises, etc., and this is also so in the South American Republics. They need financial aid, and they cannot get it from European countries, because that is cut off, consequently there is no buying facility, and in order to do more business with the South and Central American Republics we have to make arrangements to buy their raw materials, and in that way they will get money into that country, because when money is so high the bankers will first have to look after their own country, so we have to create a market for the South and Central American countries' materials before we can expect to do more business with them; and, therefore, first of all we should get away from this narrow-minded proposition that nothing but the English language should be taught in our schools, and instead of teaching French, which is done in a great many schools, Spanish should be taught.

Now, there are a great many people that figure that while the war is on in Europe that they can just jump down there and pick up a whole lot of work, and that is wrong. We might, however, pick up a nice trade in that country if we give it proper attention in the next 10 years, but not right away quick.

THEO. O. VILTER, President.

The questions upon which were based this interesting collection of letters were:

1. In what direction are you inclined to seek foreign markets for the output of your industry, whether you are manufacturing primarily for foreign account or seeking merely to place abroad your surplus output?
2. Will the conclusion of the European war tend to increase or decrease the foreign demand for your goods?
3. Have you been able to find in the United States like materials or substitutes for materials usually supplied from abroad, and is there any reason why the use of such American materials should not continue permanently and in constantly increasing volume?
4. To what main causes do you attribute dullness in American markets, if such exists in your case, and what remedy do you suggest?
5. Do you believe that sufficient emphasis has been placed or is being placed upon the quantity and quality of American-made goods suitable for American markets?
6. What are you doing in the way of preparation for a revival of trade that is bound to come?

A number of replies were categorical. They are published as follows, the figures being used with them indicate the questions:

O. M. Pruitt, president the Indiana Air Pump Co., Indianapolis, Ind.:

1. South America.
2. Increase.
3. Our materials are all from the United States.
4. First, the long-continued monetary uncertainty and restriction of credit; second, the interruption of many lines of trade by the war and uncertainty regarding the future and the necessity of making new adjustments of business relations and providing for new sources of supply.
5. No.
6. Keeping before the public as being prepared to care for the trade.

Stewart Heater Co., Buffalo, N. Y.:

1. Our surplus.
2. We hope to increase.
3. All material, we believe, can be found in the United States.
4. Change in politics.
5. No.
6. All we can.

William F. Kirk, manager McLanahan-Stone Machine Co., Hollidaysburg, Pa.:

1. Not seeking.
2. No.
3. We use all American materials.
4. Tariff and hounding large corporations.
5. Do not believe.
6. Waiting.

H. A. Wincey, president Steel Protected Concrete Co., Philadelphia, Pa.:

1. We prefer the domestic trade.
2. Will increase from 30 per cent. to 40 per cent.
3. We supply a demand created by ourselves.
4. Democratic meddling with business and the tariff; also the war.
5. Always, no.
6. Working hard and keeping both eyes open. This is the very best market.

Brillion Iron Works, Brillion, Wis.:

1. No foreign trade.
3. Yes.
4. Lack of confidence.
5. No.

Clifford L. Millard, president and general manager John L. Roper Lumber Co., Norfolk, Va.:

1. No chance to increase in foreign markets.
2. We think there will be some increase in the demand in Germany and Belgium.
3. This question does not apply to the lumber industry.
4. Under-consumption—over-production.
5. No.
6. Nothing.

TWO VIEWS OF THE SITUATION.

OUR SHORT-SIGHTED SOUTH.

[Wall Street Journal.]

There is a tremendous moral in a statement made by the MANUFACTURERS RECORD of Baltimore which the South should ponder and digest. Railroad construction in the South, in the year now closing, showed the smallest mileage in the thirty-three years of that publication's existence and less than one-half of the average annual increase in that period.

In Congress the South is now in control. Perhaps unconsciously, it has been paying off what it chooses to believe are old scores. To do this the entire railroad industry of the country has suffered. But the investment of new capital in the South has been less, relatively, than elsewhere, and the loss to business in that section has been enormous.

This is at a time, moreover, when the cotton crop has failed, not in quantity or quality, but in marketability, while important States have received another black eye in the adding of resinous products, by the allies, to the contraband list. Rosin is the binder of shrapnel shells, camphor is a constituent of smokeless powder, and turpentine is the only discovered basis for a synthetic substitute. These, with the depression of trade, make the burden heavy to bear. But persecution of the railroads, for the cheapest kind of politics, has added immeasurably to the paralysis of what once looked like a promising development of Southern resources.

What is at the bottom of all this? It is two-cent-fare laws, extra-crew laws, mischievous meddling in the place of regulation, trucking to the labor unions, sacrificing broad interests to the selfish demands of shippers who demand rates bearing no relation to the value of the service performed. These things have frightened capital away. Real estate remains undeveloped, the industries which supply the railroads drift from bad to worse, and the last economic failure is seen in the fact that additions to taxes already oppressive yield a lower revenue to the respective States.

There is an old fable of Aesop, which Congress and the Southern Legislatures should ponder. It tells of the dispute between the Sun and the East Wind as to which could make the traveler remove his cloak. The wind only made him draw it closer around him. Prosperous railroads mean prosperous business and a larger tax collection for public development from the greatest taxpayers in the country.

Here is a proposition as simple as elementary arithmetic. Can our Southern politicians see it? And, if for no less selfish reasons, can they see it before it impresses itself upon the mind and pocket of the voter of 1916?

[The Wall Street Journal would not intentionally be unfair to the South, but it is so in this editorial, for the whole country has suffered from the disease, which was hardly more rampant in the South than in the East and the West. The Southern politicians in Washington and elsewhere have done great harm, but they only imitated the swinger of the "Big Stick." His popularity for ten years made politicians everywhere believe that success would be theirs if they could swing a bigger stick and hit harder. All sections and all parties have been tarred with the same pitch.—ED. MANUFACTURERS RECORD.]

ENCOURAGING LOCAL INDUSTRIES.

Activities in That Direction on the Part of Business Organizations.

Since the publication in recent issues of reports by local business organizations on the efforts being made locally in Southern communities to advance the cause of "Made in America," the MANUFACTURERS RECORD has received additional reports on the subject, which are published as follows:

BROUGHT FACE TO FACE WITH INDUSTRIES.

Commercial Club,

Hannibal, Mo., December 14.

Editor Manufacturers Record:

In November the Commercial Club, through its manufacturers' committee, conducted an industrial tour, visiting the industries in Hannibal. This was the first visit of many of our business men to the factories. The immensity of some of the institutions and the process of manufacture was a revelation to many. The interest was mutual; both the host (the manufacturer) and the guest (the merchant) were benefited.

The goods made by our local industries was brought to the personal attention of several hundred business men who made the visit, and the 9000 subscribers of the daily papers which gave detailed reports of the tour. There are more people in Hannibal today familiar with the local industries and what they make than there were 60 days ago. During the campaign and since, the newspapers have published a list of the things made in Hannibal.

In connection with the industrial tour the merchants featured Hannibal-made goods in their window display. The idea of buying goods made in America was not

ABANDONING DESTRUCTIVE POLICY AT LAST.

[Augusta (Ga.) Chronicle.]

It would seem that there is, at least, one lesson this country is going to learn from the effects of the European war; indeed, has already learned it: That a constructive policy is the only one to pursue in times of war, or in peace, in business, or in politics.

For many years The Chronicle has cried out against the cheap demagoguery that was everywhere sweeping the country, committing it to a destructive policy against which few newspapers, and still fewer politicians, dared lift their voice for fear of being called "the friend of special interests," and we may take some satisfaction, therefore, in the thought that this destructive policy has run its course, even though it required a great European war and its reflex action on our own country to bring the American people to their senses.

The pursuance of this policy for so many years had, already, had its effect upon American commerce and industry, and even without war we would have been compelled to realize our mistake in time, but the best proof that it was a wrong policy—if, indeed, any further proof were needed—lies in the fact that no one dares now to raise his voice in behalf of it. Even the cheapest of the cheap politicians have changed their tune, at least to the extent of keeping quiet, while the country is trying to readjust itself and get back to a truly constructive policy.

The recent decision of the Interstate Commerce Commission—too long delayed—granting the railroads a necessary increase of 5 per cent. in freight rates prompts the MANUFACTURERS RECORD to offer a few observations along the same line, in which there is much food for thought.

prominent at the time we made the tour, and we featured Hannibal-made goods.

In our community there are perhaps only 10 or 12 factories that have very much of a home market, most of the factories shipping to distant points and perhaps using trade journals to advertise. The factories that have a home market, such as shoes, cement, lime, wagons, wire fence, stoves, use the local press as a means of advertising their wares to create a home market. Hannibal people are loyal to their home industries, and this, together with our natural advantages, has made factories located in Hannibal prosperous.

Manufacturing in Hannibal increased 237 per cent. between the years of 1900 and 1910.

HARRY A. SCHEIDKE, Secretary.

FOR A STANDARD M-I-T-U-S-A LABEL.

Chamber of Commerce,

Johnson City, Tenn., December 14.

Editor Manufacturers Record:

We are advocating the "buy-at-home" spirit through cards placed in show windows, street cars, newspapers, local college papers and slips to wrap up with the customers' purchase, and in any other way that we find convenient. We are much in favor of a standard label to be used by all manufacturers, showing their goods to have been "made in the U. S. A."

THOS. P. BOONE, Secretary-Manager.

KNOWN AS A TOURIST COMMUNITY.

Board of Trade,

Daytona, Fla., December 19.

Editor Manufacturers Record:

This is really more of a tourist community than an industrial one, there being no manufacturing of any kind employing more than a dozen or so hands. We have one fruit-preserving company that is putting up citrus fruits in very attractive packages, which are being

shipped all over the United States. All the fruit is grown in the community, such as oranges, grapefruit, kumquats, figs. Of course, they have some local trade, but they do not use the local press for advertising their goods. We also have a cigar factory that is putting out an excellent quality of goods; they do a little local advertising in the local papers, as they also ship the bigger portion of their cigars.

There is also a very good sheet-metal shop here that makes a specialty of oil tanks and heaters for orange groves. It advertises largely in local and State papers.

We are certainly in the field for any suggestions that will encourage what industries we have to branch out and to encourage any new ones that are suitable to our locality.

BENFORD DEACON, Secretary.

AS LOCAL FLOUR MILLS WERE AFFECTED.

Chamber of Commerce,

Owensboro, Ky., December 26.

Editor Manufacturers Record:

Two years ago the Chamber of Commerce decided upon holding a "made-in-Owensboro" and "grown-in-Daviess-county" exposition, for the purpose of acquainting the citizens of the city, county and surrounding country with what is actually made in Owensboro and grown in Daviess county.

The first exposition was held in October, 1913, and the second in October of this year. In the first we had 55 different manufacturing industries represented and a small agricultural exhibit. In the second we had 62 manufacturing industries represented and one of the largest and most varied agricultural exhibits ever exhibited in Western Kentucky. These expositions were held in the Armory building, 60x90 feet, with a 10-foot balcony, and every foot of this space was occupied by the various manufacturers of the city and county, while the agricultural exhibit was made in a tent 60x90 feet on a lot adjoining the Armory.

Each of these expositions was a revelation to our people as to the variety of products of the city and county, and were visited by thousands of people each day and night during the week of the expositions.

The purpose of these exhibits were to acquaint our people with our products and endeavor to develop that "community-interest" spirit so essential to the welfare and prosperity of any community, and to encourage our people in buying "home-made" goods, and we now have every reason to believe that our efforts were not in vain. As evidence of this we will cite one case, which fairly illustrates many others.

We have four flouring mills in Owensboro, and prior to the holding of these expositions it was conservatively estimated that 80 per cent. of the flour used in Owensboro and Daviess county was made by Indiana mills. Our home millers now assure us that this condition has been reversed and that the home mills are now supplying the 80 per cent. or more.

We believe in Owensboro and Owensboro-made goods, and are using our best endeavor to have our people buy, sell and use home-made goods. We have over \$4,000,000 invested in manufacturing industries. We have room for more.

GEO. M. COX, Secretary.

STIMULATED HOME SUPPORT OF INDUSTRIES.

Chamber of Commerce,

Wilmington, N. C., December 24.

Editor Manufacturers Record:

The Chamber of Commerce took advantage of the recent Corn and Agricultural Show in Wilmington, with probably the most complete and successful manufacturers' exhibit ever attempted here, which proved somewhat of a revelation to the people of this section.

The exhibit represented some 44 different manufactured products, including cotton goods, fertilizers, gum veneer, baskets, barrel headings, furniture, hosiery, pine products, metal products, etc., and during the four days of the show was visited by several thousand Wilmington people and hundreds from five surrounding counties.

The Wilmington people have a better idea of the different products manufactured here as a result of this exhibit, and it has to some extent stimulated local support for these industries. We believe the recent exhibit will serve as an impetus for greater efforts in the display of manufactured goods at the show next year, and will learn some of them the value of properly advertising their products.

I regret to say that the manufacturers here appear to be somewhat indifferent to local advertising, and few of them make use of the Wilmington papers.

The only manufactured product for export from Wil-

mington is gum veneer, and we are pleased to state that this plant, owned by a Scotland company, has resumed operations after suspension for about two years. The conditions in Europe closed the market for Russian veneer and the company opened the American plant to supply their needs.

H. B. BRANCH, Secretary.

COMMUNITIES MUST BE BUILT.

Chamber of Commerce,
East Chattanooga, Tenn., December 22.

Editor Manufacturers Record:

The people here are realizing most keenly that communities do not merely grow, but that they are built, and this stern truth has been brought to notice most forcibly by the recent activities of its reorganized Chamber of Commerce.

East Chattanooga's Chamber of Commerce means business. Its long-time citizens and young men are no longer content at allowing this vicinity's opportunities to go unrecognized. They are urging every dweller to lay down the hammer and take up the horn and use it. They are able already to see what can be accomplished by determined yet persuasive concerted action, and the encouragement that comes to them in continually pushing their extensive propaganda for local betterments prompts them to keep up their hearts and hands for a bigger and better East Chattanooga. The clergy to a man is exercising himself in behalf of his townspeople's full, complete Christian American citizenship.

East Chattanooga has a population of 7000. It embraces a territory two miles wide by five miles long. This territory comprises one of the most natural favored spots for a model twentieth century city to be found in the United States.

Fertile river bottom farms in two directions and vast hill pastures for stock make East Chattanooga a desirable place to live in when foodstuffs and markets are considered.

Manufacturers are taking increasing cognizance of East Chattanooga's economic advantages and commercial resources. It is the home of five large manufacturing enterprises which give employment to 1200 people. There are four railroads here, and street-car service extends to every part of the city. City water, electricity and telephone service and a live morning and evening paper may be numbered among its accommodations.

The city has over 50 local business houses, a post-office, free mail delivery and five carriers. It has 10 churches and two public schools, and there are no schools in the country better than East Chattanooga's.

The East Chattanooga School Improvement League is the liveliest woman's organization in the town, and its hearty support and co-operation with the various other institutions speaks volumes for the future well-rounded lives of East Chattanooga's children.

We are surely taking decisive steps to build for these children a city of which they may well be proud. We are methodically perfecting measures which will warrant the personal pride and faithful assistance of every man and woman to help make their home town their own triumph and comfort and treasure.

E. A. ANDREWS.

THE RAILROAD RATE DECISION.

More Expressions of Hopefulness for the Beneficial Results.

Referring to the recent railroad rate decision of the Interstate Commerce Commission, Joseph G. Butler, Jr., of Youngstown, O., writes to the MANUFACTURERS RECORD:

"The Interstate Commission's decision in favor of the railroad will have a decidedly good effect. We can see evidence of a betterment already. I think the railroads will now send out orders for material which has been very much needed, and no doubt held back pending the decision of the Interstate Commission."

President W. J. Harahan of the Seaboard Air Line Railway writes:

"As you state, the amount of money which will be realized by the railroads under this decision is not sufficient to give them the financial aid which they should have to accomplish what is necessary to develop the greatest possible property of the community. It is, however, an encouraging sign, and the sentiment gener-

ated by it is going to be of very great value in inducing the return of prosperity.

"As you say, it looks as if there is something necessary to make the Interstate Commerce Commission more efficient. While there is no question but what we must have regulation, and I do not believe that the people will be contented without it, and I do not feel that regulation properly handled is a detriment to the railroads, yet the present method needs reconstruction in some manner. I think that the present force is attempting to accomplish a task which is physically impossible and in some effective way it must be enlarged, and there should be men who have had actual experience in business, both from the shippers' side and the railroads' side, on either the Commission that now exists or on another Commission, probably retaining the Commission as it now exists to perform its appropriate part of the work required in the regulation scheme."

ON A SELF-CONTAINED BASIS.

Diversity of Manufacturing and Farming Industries at Cleveland.

[Special Correspondence Manufacturers Record.]

Cleveland, Tenn., December 19.

This little city—population in 1910, 5553—could, if necessary, come as near living on the manufactured and agricultural products that are produced hereabout as any in the whole country. It is an ideal "diversified" community, with the factories in town producing wearing apparel and household necessities, while the farmers in this section have grown rich raising foodstuffs, leaving what little cotton they grow to bring them "pin money" when needed.

Among the articles turned out by the local plants are men's and boys' clothing, hosiery, flour, cook stoves, tables, coffins, lumber, harness, wagons, buggies, excelsior, ice and bottled drinks. The clothing is manufactured from cloth that is made from the raw wool right here in Cleveland in a large plant that has been running since the seventies. This concern does a large business through the West, as well as operating its own retail store here.

It is probable that before spring has passed work on a new chair factory will start. There is talk of organizing one locally to take the place of the successful plant that was burned here about two years ago.

A large quantity of eggs is produced in this section, as there are two successful cold-storage and packing concerns whose chief business is to ship eggs all over the Middle West and South.

Wheat is grown extensively, and has a ready market here.

Tomatoes and strawberries form a large part of the staple crop of the farmers of this section. There is a canning plant here that puts up tomatoes and other vegetables, and the large output is sold readily here in Tennessee. An agent for one of the large soda fount syrup companies in Chicago comes here annually and buys carloads of strawberries to make syrup. This is due to the unusual quality of the Bradley county strawberries.

Cleveland is different from most small cities. Instead of paving its streets, installing a sewer system and constructing schools and then inviting outsiders to come and make their home here, it has done just the reverse. The manufacturing plants have come first, thus furnishing employment for the people. The people now have an opportunity to help bring about the needed improvements. Bonds have already been voted for a sewer system, schools and streets, and as soon as they are approved by the Legislature it is probable that the good work will go forward.

The best hotel in the city advertises that it is "the only second-class hotel in the world," which is rather hard to believe when one goes to so many so-called first-class hotels that do not have spotless linen, steam heat, good home-cooked meals or music with the meals, as does this hotel. The slogan is purely for advertising purposes, and is as good for that purpose as it is original.

Taking care of all the industrial and agricultural activities mentioned herein are four strong banks, with a total capitalization of \$350,000, and with an almost equal surplus. The Cleveland National Bank, which is the only local member of the Federal Reserve Bank here, is the leading bank.

ROY G. BOOKER.

FOR WEST VIRGINIA'S ADVANCEMENT.

A State-Wide Real Estate Dealers' Association Organized for That Purpose.

Through the efforts of a number of leading real estate dealers in West Virginia, the West Virginia Real Estate Dealers' Association was recently organized for the definite purpose of stimulating a broader agricultural and industrial expansion of the State, as set forth in the following article from the constitution of the association:

"The purpose of this association shall be the co-operation with each other and with the State Department of Agriculture and with any other agency for the promotion and development of the agricultural resources of West Virginia and the honest and legitimate advertising of her agricultural lands, for mutual co-operation in advertising all kinds and classes of real estate and investments in the State, and such other matters as may be of mutual interest to its members, and to encourage the enactment of such laws as will best conserve the objects to be attained."

In addition to the efforts to be made for developing the State agriculturally, the members of the association will also co-operate for the sale of houses, lots, buildings, coal lands, timber lands, oil and gas properties, manufacturing sites and every legitimate real estate investment. It will also be a part of the organization to bring factories into the State and help them to get proper locations.

In its work this association will have the co-operation of the State Department of Agriculture and the different railroads operating within the State. Between these various bodies it is planned to have an exchange of inquiries and information that will enable all parties to keep in the closest touch with those who are investigating the possibilities of West Virginia with a view to investment or settlement. The following officers have been selected: President, L. H. Cammack, Huntington; vice-president, J. O. Mead, Parkersburg; secretary and treasurer, Howard L. Swisher, Morgantown; board of directors and legislative committee, J. J. Thomas, Beckley; W. J. Hughes, New Martinsville; I. N. Langfitt, Parkersburg, and Charles Rice, Elm Grove. The various details in reference to organization are being handled by the secretary, Howard L. Swisher.

Texas Industrial Congress Prizes.

At its annual convention in Dallas December 19 the Texas Industrial Congress awarded for the fourth consecutive year \$10,000 in gold to contestants who have made the best yields of field crops, cost of production considered, and the largest gains in live weight of meat animals at the least expense; re-elected its present officers and outlined its work for 1915. The average yields of contestants this year are as follows: Cowpeas, 3.79 tons; corn, 60.69 bushels; cotton, 1.33 bales; kafir milo and feterita, 3.1 tons; peanuts, 2.8 tons. The best hog was fattened at a cost of 4½ cents per pound.

For 1915 the contests will include cowpeas, corn, cotton, grain, sorghums, wheat, oats and barley, steers, baby beeves, hogs, and home and school gardens in town and country. The annual offer of \$10,000 in prizes will be issued about January 1, 1915. The congress will lend every possible aid to the diversification campaign to be conducted next month by Prof. Perry G. Holden of the International Harvester Co., and his expert assistants in connection with the commercial organizations and business men of the various counties.

The garden contest of the congress is a new feature, and will be open both to schools and to individuals. A good garden furnishes about half of the family living. It is hoped that there will be 100,000 more gardens in Texas next year. The slogan of this campaign will be "A garden in every home."

The twenty-eighth annual report of the Department of Labor and Printing of North Carolina, made to Governor Craig by Commissioner M. L. Shipman, presents a mass of elaborate figures dealing with the phases of farming conditions, with the trades, with miscellaneous factories, with cotton, woolen and silk mills, with furniture factories, with newspapers and with railroads and employees. An appendix summarizes the information. One of the valuable features of the report is a classification by industries of the thousands of establishments in the State.

A YEAR OF CHANGE IN PIG-IRON.

Reflection in the South of the General Manifestations in the Country.

[Special Correspondence Manufacturers Record.]

Birmingham, Ala., December 26.

The closing of this week marks probably the most spectacular year in the history of pig-iron making in the United States. At the beginning of the second half of the year there looked to be in store for the pig-iron manufacturers prospects of a very stable and profitable market for the remainder of the year, and an exceptionally bright outlook for the year 1915. A canvass in the South of the situation relating to the probable fall melt of pig-iron has revealed the fact that the large agricultural and stove manufacturers, in particular, had on their books at the beginning of the second half of the year more business than any previous year in the existence of their business. Of course, the war completely upset all plans, and has more or less curtailed 1914 outputs. This was expected, of course, but it has extended farther, and so far buyers have not been able to intelligently figure what their first quarter or first half of next year's requirements are likely to be; hence many have not been in position to take advantage of the very low prices which have prevailed for the past three weeks. Furnace production in the South has been curtailed, and at the present time sellers have been able to keep a pretty substantial tonnage moving. Within the past three or four weeks 150,000 to 200,000 tons of pig-iron have been sold—quite a tonnage of this being for export business. The prices paid ranged from \$9.50 per ton to \$10 per ton at the furnace. These figures correctly represent the market today, with the trend being strongly toward the \$10 mark. The lull in the market has had one decided effect on the production of iron, and that is, that certain interests that have heretofore paid more attention to production than the quality of the iron produced have taken the time to readjust their mixtures on a basis to insure a better analysis iron. As foundry mixtures by analysis are becoming more generally used, this step forward put our Southern irons on a much better basis than heretofore. Instead of being used more or less as softeners and irons of fluidity, they are looked upon with more favor as strong, firm irons. Following market prices prevail f. o. b. cars at the furnace:

- No. 1 foundry, \$10 to \$10.50.
- No. 2 foundry, \$9.50 to \$10.
- No. 3 foundry, \$9 to \$9.50.
- No. 4 foundry, \$8.75 to \$9.

Within the past two months the Pacific coast foundries have been looking to the Birmingham district more strongly than ever for their supply of pig-iron. As an initial movement, some of the furnace companies have shipped by boat from the port at Mobile, Ala., from 1500 to 1800 tons of pig-iron, as well as a few hundred tons of foundry coke. A strong effort is being made by representatives on the coast to inaugurate a monthly service of two boats, which will carry a diversified cargo, but will touch Mobile each month to take on a certain tonnage of pig-iron, coke and pipe. Details have not yet been perfected, but it is practically an assured fact. If there is to be worked out a satisfactory water rate, which no doubt will be done, the Birmingham district will be in position to compete for all time with the European and Orient irons that have heretofore been shipped to the coast of California, Washington and Oregon.

The coal and coke markets have been more or less disturbed. The cold weather which has prevailed the past two weeks has had a decided effect on the domestic coal situation. The coal mines in the district are running on an average of three to four days a week. This policy keeps the organizations intact, and all the men working part of the time. Strictly first-class 72-hour foundry coke can be had for \$3 to \$3.25 per ton at the ovens; furnace and smelter coke from \$2.25 to \$2.50 per ton at the ovens.

A NEW TRUST COMPANY.

\$200,000 Institution Organized at Savannah in Spite of Dull Times.

The American Bank & Trust Co. of Savannah will be open for business January 10. Application has been

made for a charter, and the capital stock is \$200,000. Harry C. Anderson, who will be vice-president of the new institution, says that its organizers realized that they had a rather difficult undertaking before them in attempting to secure subscriptions to the shares in these times of depression, but they determined that theirs should be a popular concern with widely-scattered influence, and that no one subscriber should be permitted to have more than 25 shares. The result of a four weeks' campaign was that the 2000 shares of stock were disposed of to 668 subscribers in lots of from 1 to 25 shares, an average of about three shares for each. There was a total oversubscription amounting to 110 shares, and applications for stock are still being received.

The organizers of the American Bank & Trust Co. were all for years officers of the old Savannah Trust Co., but resigned when it consolidated with the Chatham Bank of Savannah. Wm. V. Davis was vice-president of the old company, Harry C. Anderson was secretary and trust officer, and Valmore W. Lebey was assistant secretary and treasurer. These three are the incorporators of the new institution, of which Mr. Davis will be president, Mr. Anderson vice-president and Mr. Lebey secretary and treasurer. In addition to the president and vice-president, the board of directors will include Wm. B. Stephens, Stephen N. Harris, F. P. McIntire, E. W. Rosenthal, F. W. Henges, Geo. C. Heyward, Jr., Wm. J. Robider, Robt. J. Travis, A. D. Strobhar, H. C. Brinkman and V. G. Schreck.

A building at the corner of Bay and Drayton streets, in the financial district of the city and immediately across the street from the Cotton Exchange, has been purchased and will be immediately renovated and transformed into a modern and attractive banking-house. For a few months, until this is ready, the company will occupy temporary offices at No. 9 Bay street, which was formerly occupied by the Savannah Trust Co.

IN KENTUCKY COAL FIELDS.

Better Conditions Developing in the South-eastern Part of the State.

[Special Correspondence Manufacturers Record.]

Barbourville, Ky., December 28.

A gradual return to better conditions is being shown by the coal-mining industry in Southeastern Kentucky. Operators, with few exceptions, report a better demand for both steam and domestic coal, and the increased business has already justified several of the larger plants in putting on larger working forces. Two months ago the plant that operated six days each week was an exception rather than the rule. Now most of the operations are working full time where the supply of cars justifies, and several thousand miners who have been idle a greater part of the year are again in demand.

Reports from the Middlesboro district state that all operations in the Mingo Hollow district, extending into Tennessee, are making arrangements to put on full working forces and operate on full time. It is stated that the Southern Railway has placed large orders with operators in that district, which will assure prosperous conditions in the trade for several months to come. A large tonnage which the Southern formerly obtained from West Virginia fields is now being placed with the Middlesboro companies, it is stated. Several of the plants in the Mingo Hollow district have recently installed washers, and the grades of coal now produced bring a higher price and are in greater demand than formerly.

The tonnage coming out of the new Harlan county field is increasing. A number of new operations established in that field during the past year are now running and are adding considerably to the tonnage being moved over the Washto & Black Mountain feeder of the Louisville & Nashville system. At the head of the line the \$12,000,000 plant of the Wisconsin Steel Co. at Benham is running full time, with increased shipments of coke to northern points of consumption. At the same point a new company, the Loony Creek Coal Co., has begun shipments. The Harlan Coal Mining Co., with operations at Caxton, is opening up new mines in the Clover Fork field and will soon be ready for shipments.

In the Knox county end of the field a number of

plants have installed new electrical equipment during the dull season, which operators now hope is passing. The New Hughes-Jellico Coal Co., Elys, Ky., has constructed an entirely new plant. The Carter Coal Co., the largest concern in the Knox county field, with operations at Warren and Trosper, has installed a new plant for the operation of its various mines, while the Dean-Jellico Coal Co., Anchor, Ky., has completed the installation of new electrical equipment.

The development of the newly opened Clover and Martin's Fork districts in Harlan county will double the tonnage in that district. Twelve mines have been established and are in running order, while plans are under way for the opening of eight new mining plants.

During the past two weeks a party of Pennsylvania coal operators has been making a trip of inspection through Clay county's coal and timber fields. Edward Gearhart and J. A. Helm, in company with Brooksville (Pa.) people, owners of 30,000 acres in that county, composed the party. Rights of way for a proposed railroad from Barbourville to Manchester were inspected. Five years ago the right of way for the proposed 24-mile railroad were secured, but construction work was never started because of industrial depression. The outlook now seems very good for the building of the line, which would open for development one of the richest coal fields in Kentucky and give access to the outside world to one of three Kentucky counties now without railroad facilities. Several million dollars have been invested by Easterners in the purchase of land in Clay county during the past few years.

A new industry which will be of much benefit to this city and surrounding country is a woodworking plant, installed by T. Minton & Son, for the manufacturing of wagon and automobile stock from hickory timber. The industry will employ about 50 men when in full working order and will provide a market for hickory timber over a wide area.

W. B. HUDSON.

A Home for Mill Bachelors.

J. W. Cannon of Concord, N. C., will soon start the erection of a building in Kannapolis, N. C., to be known as the George Washington Inn. This will be a home for young men who come to the town to work in the mills and do not have families or homes in which to live. Some months ago a home was completed and known as the Martha Washington Inn, in which about 40 young women live who work in the mills in Kannapolis, and where they are looked after by a matron who has charge of the home. Like the Martha Washington Inn, the new home for young men will be equipped with all the modern conveniences, including water, lights, baths, sewerage, steam heat and well screened. The home for girls has running water in all of the rooms, with single beds, and the mill furnishes all the furniture, table and bed linen, as well as towels, and pays for the laundry of the linen and steam heat. The home for boys will be modeled after the home for girls.

A Good Example for All.

Mr. J. D. Bascom, Broderick & Bascom Rope Co., St. Louis, Mo., in a personal talk, speaking of business conditions, made some statements worthy of being studied by the whole country. He said: "We have run night and day during the month of December for the sole purpose of giving our men some extra spending money for Christmas. We are piling up stock. We could have accomplished that end by running only two-thirds of the time, but decided it would be better to work double time. We feel that there would not be so many men tramping the streets if other manufacturers would do likewise."

Are Sumac Berries Wanted?

John G. Shaw of Fayetteville, N. C., writes: "I have been asked if there is any sale for sumac berries. I was unable to answer the question, although I believe that they are used in the manufacture of dyes. Is there any sale for them? And if so, where and to whom? There is quite a lot of sumac in this country, and if the berries are salable it would create a source of revenue for a good many unemployed people."

GOOD ROADS AND STREETS

STATE HIGHWAY FROM CHATTANOOGA TO LOUISVILLE.

The accompanying map shows the pike road from Chattanooga, Tenn., to Louisville, Ky., as practically located. The first 10 miles of the road out of Chattanooga to the top of Signal Mountain, which is the most expensive part of the whole line, has already been completed in perfect condition. The Signal Mountain boulevard is a model road in every respect. The road from that point on to Crossville, Tenn., where it connects with the Bristol-to-Memphis State highway, is practically on the level plateau of Signal Mountain, which is 2000 feet high. At Crossville one can go to Nashville on a good road and also to Knoxville, toward Bristol; but when this main through road is completed to Louisville it will shorten the distance over 100 miles, and there will be 100 miles of this road on top of the Cumberland plateau. It will be the most picturesque road in America.

At a glance it may be seen what this road will mean to tourists from Ohio, Indiana, Illinois and Michigan, and it will no doubt be the main highway that will be traveled from New York and Eastern points, as we have splendid roads from Chattanooga to Atlanta and the South, and also to Birmingham.

This road from Chattanooga to Louisville will have to be built by property-owners along the line and the counties through which it passes. There is every reason to believe that Kentucky will complete the small gap of road that is necessary in the southern part of Kentucky to the Tennessee State line. One may understand what this road will mean to both Louisville and Chattanooga, and the South, when he can get in a car in the morning at Louisville and take supper in Chattanooga. Louisville would be the gathering point for the entire West for people going to the South and Florida.

SOUTHERN HIGHWAY ACTIVITIES.

Details of Week's Progress in Improvements in City and Country.

Further details of road and street undertakings and bond issues mentioned below are given under the headings Construction Department and New Securities, published elsewhere in this issue.

The MANUFACTURERS RECORD invites from its readers information about road and street work projected or under way, photographs of good roads and discussions of matters pertaining to the betterment of the highways of the South.

Bonds Voted.

Smithfield, N. C.—Ingram township of Johnston county will sell \$40,000 bonds for road construction.

Vernon, Ala.—Lamar county voted \$75,000 bonds to construct roads.



Bonds to Be Voted.

Alexandria, La.—Rapides Parish Road District No. 2 votes January 19 on \$100,000 bonds to construct roads.

Corpus Christi, Tex.—City votes in January on \$100,000 bonds to pave streets.

Waco, Tex.—City votes January 22 on \$15,000 bonds to pave streets.

Contracts Awarded.

Aiken, S. C.—Aiken county let contract at \$11,500 to construct 19-mile road requiring 18,500 cubic yards of excavation and 24,000 cubic yards of sand-clay surfacing.

Columbiana, Ala.—Shelby county let \$6542 contract to grade and drain three miles of road.

Louisville, Ky.—City let contract for 16,950 cubic yards of excavation, 10,340 square yards of granite, 9838 square yards of bituminous concrete, etc.

Contracts to Be Awarded.

Baltimore, Md.—City receives bids until January 6 on about 5000 cubic yards of grading.

Chattanooga, Tenn.—County Road Commissioners invite bids until January 6 to pave and lay combined cement curb and gutter, about 2542 feet.

Corsicana, Tex.—Navarro County Road District No. 3 opened bids on December 30 to construct 22 miles of road.

Louisville, Ky.—City receives bids until January 11 for bituminous concrete paving, vitrified brick gutters and granite block stringers on Hill street.

Madill, Okla.—Marshall county opens bids January 4 to construct 55-mile road, including stone and concrete culverts.

Manassas, Va.—Washington & Valley Turnpike Co. has surveyed for construction of 22-mile macadam road forming link between Washington and Valley pike; will issue \$150,000 stock.

McKinney, Tex.—City opens bids in January or February on street paving, for which \$165,000 will be available.

Miami, Fla.—City invites bids until January 7 for grading and paving various streets.

Pittsboro, N. C.—Haw River township of Chatlain county will construct about 25 miles of sand-clay roads, having recently voted \$20,000 bonds.

San Antonio, Tex.—Judges of Bexar, Comal, Guadalupe, Hays and Travis counties receive bids until January 22 for grading, surfacing with gravel and constructing drainage structures for San Antonio-Austin post road, about 71 miles long; \$229,000 available.

Sherman, Tex.—City opened bids December 28 for 26,000 square yards of paving, 1700 cubic yards of extra grading and 500 linear feet of curb and gutter.

Sulphur Springs, Tex.—City receives bids until January 19 for 35,000 square yards of paving, 20,000 square yards of concrete curb and 12,000 cubic yards of earth excavation.

Tampa, Fla.—City invites bids until January 5 for 50,000 linear feet of concrete curb and gutter and 50,000 linear feet of granite curbing.

Tuskegee, Ala.—City will improve streets, and has \$15,000 fund available.

Wartburg, Tenn.—Morgan county lets contracts January 2 to construct 80 miles of roads; \$270,000 bonds heretofore voted.

Flour Milling at Columbia.

It may not be generally known that at Columbia, Tenn., there are three flour mills which have an aggregate annual output valued at \$1,500,000, an illustration of the diversified industrial activities of the South. One of the mills, that of John B. Ashton, has a history of 48 years. Another, the Columbia Mill & Elevator Co.'s, has been making flour for 24 years, and the third, that of the City Mill & Grain Co., is younger.

To Mine Pocahontas Coal.

Properties in the Pocahontas coal field will be developed by the Alpha Pocahontas Coal Co., which has been incorporated with a capital stock of \$125,000. The corporation has its offices at Lynchburg, Va., and the officers are as follows: F. M. Lee, president; S. P. Halsey, vice-president; G. H. Wilkins, secretary-treasurer.

Austin Knitting Mills.

The Austin Knitting Mills, Austin, Tex., will be organized, with a capital stock of \$25,000, by E. A. Orchard, J. Lee Costley, T. H. Barrow and associates. This company is the one lately noted proposed. It will at first install machinery for knitting underwear and later for knitting hosiery.

According to the annual report of State Labor Commissioner J. H. Nightengale, \$13,791,695 were the capital of 200 manufacturers of lumber in West Virginia in 1913. They employed 15,414 persons, and the value of their products was \$20,720,202.

The packing-house at Moultrie, Ga., has made a good start, with plenty of stock for the plant and an average daily slaughter of 150 hogs, with a few cattle.

The Board of Trade of Palatka, Fla., is circulating an artistic pamphlet with half-tone illustrations telling of the attractions of the city and its surroundings.

Chamber of Commerce, Apalachicola, Fla., plans to establish a knitting mill.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

KEY WEST-HAVANA RAILROAD FERRY.

The "Henry M. Flagler" to Begin Running January 2 Across the Gulf of Mexico.

Henry M. Flagler, whose influence upon the prosperity of Florida has been so great, once dreamed of establishing an all-rail route between the United States and Cuba. He recognized the possibilities of trade with the fertile island, and the first step was accomplished on January 20, 1912, when the Florida East Coast Railway, of which he was founder and president, formally opened its Key West extension. He was not, however, permitted to see his dream fully realized, as he died about a year after the completion of the extension. The railroad company, however, imbued with his enthusiasm, determined to fulfill his plans, and on January 2, 1915, will be put in commission the car ferry steamer "Henry M. Flagler," to transport loaded cars between the United States and Cuba.

This vessel, one of the largest of her kind, was built by the William Cramp & Sons Ship & Engine Building Co. at Philadelphia from plans and specifications furnished by M. C. Furstenau, consulting naval architect for the railway company, and under the able supervision of Robert W. Parsons, assistant to the president of the Florida East Coast Railway. She was launched September 22, 1914, the keel having been laid on April 20 of this year. Her principal dimensions are: Length of car deck, 360 feet; length between perpendiculars, 248 feet; breadth on car deck, 57 feet; depth, molded, 22 feet; deadweight capacity at 15 feet draft, 2500 tons; speed, loaded, 13 knots.

Accommodation is given on the steamer for 30 of the largest refrigerator cars, which will be carried on four sets of standard-gauge track. In addition to this, there are three cargo holds, capable of being loaded directly, either from the cars or through cargo ports at the side of the vessel. Each hold is served by an independent "Williamson" double drum electric cargo hoist of two tons capacity. The dry cargo capacity of the steamer is approximately 3000 tons.

The vessel is divided into water-tight compartments. Ten of these are known as "deep tanks" and are used for ballast purposes, having a water capacity of 3000 tons. They are connected by a system of pipes for filling and discharging, which are served by two 12-inch centrifugal pumps of a capacity to discharge 3000 tons of water in 75 minutes. By this means the steamer can be loaded down to her load draft, although no cargo is carried.

One of the forward ballast tanks has been provided with necessary apparatus for filling and discharging, so that it is capable of carrying a cargo of molasses.

The power plant consists of two triple expansion engines, cylinders 20 inches, 32½ inches and 54 inches diameter, respectively, by 36-inch stroke. These engines are designed to develop 1500 indicated horse-power each at 100 revolutions per minute and under 170 pounds steam pressure, which is furnished by a battery of four Scotch marine boilers, each 13 feet 2 inches diameter by 12 feet long, and each fitted with two 48-inch Morrison corrugated furnaces, which are operated under the "Howden" system of forced draft. The auxiliary equipment is unusually complete. Feed, circulating and ballast pumps, also the electric plant, are all in duplicate.

The same careful study and workmanship and elaboration have been carried into the quarters for the officers and crew. Running hot and cold fresh water is furnished to each room. Four individual baths are furnished for the officers, and four shower baths for the crews quarters, these also being supplied with cold salt water.

The same completeness that characterizes the vessel has been carried into the navigating outfit, which is of the "Riggs Bros." type.

From the Key West Terminal to Havana, Cuba, the oversea distance which will be traversed by the "Henry M. Flagler," is about 100 miles, and the run from dock to dock will be made in eight hours, as required by the schedule.

TRANS-MISSISSIPPI TERMINAL.

Construction of New Stations and Warehouses Starts Early in January.

Soon after January 1 the Trans-Mississippi Terminal Railroad Co. at New Orleans will begin the erection of its large freight station, warehouses and a passenger station on the tract of land bounded by the Mississippi River and Annunciation street and extending along the latter from Thalia to Race street. The Texas & Pacific Railway and Missouri Pacific-Iron Mountain Railroad system are jointly interested in the terminal company, which was organized several months ago, when its plans were announced. E. F. Kearney, who is also first vice-president of the Texas & Pacific Railway, is its president. He made the announcement about the plans for construction. The two stations, passenger and freight, will cost about \$250,000 each, but this total is only a fraction of the sum which will ultimately be expended by the company. Its bond issue is for \$7,500,000, although part of that is to cover the present terminals at Westwego, across the river, and some is to be reserved for future use. Several millions of dollars will be the value of the new terminals when finished, this, of course, including the property forming the site, which was costly.

One of the contracts is already awarded, it is stated, and the rest of them will be let immediately after the holidays. The passenger depot will front upon Annunciation street, and will be of imposing appearance. The freight station building will be of great capacity, and

will be equipped with the latest and best facilities for the expeditious handling of traffic. Already the Texas & Pacific Railway has spent considerable money upon the terminal site for drainage, sewers, tracks and paving, and now it is expected that the first of the buildings will be completed in from eight to nine months. Contractors are assembling forces to begin work.

When the terminal is ready it will be used by both the passenger and freight trains of the Texas & Pacific and the Missouri Pacific-Iron Mountain railroads. The latter has a low-grade line from St. Louis down to a connection with the Texas & Pacific in Louisiana, and it is anticipated that the traffic over the route will be heavy.

Railroad for Lumber Plant.

According to a report from Meadow River, W. Va., the Cherry River & Southern Railroad Co., H. L. Kirtley, Charleston, W. Va., president, which proposes to build a line from Curtain to Bays Ferry, on Meadow River, will be for the purpose of hauling logs to the new lumber manufacturing plant of the C. L. Munger Lumber Co., now nearing completion at Meadow River. Peter Carroll of Charleston is named as president and treasurer of the lumber company; A. Bringardner, vice-president, and W. H. Wells, secretary. It owns 20,000 acres of virgin timber lands in Greenbrier, Nicholas and Fayette counties, which, it is estimated, will yield 200,000,000 feet, of which about one-half is oak, something more than one-sixth poplar, and rest hardwoods of various kinds.

New Equipment.

Illinois Central Railroad is reported to have placed its order for 50 locomotives with the American Locomotive Co. There will be 25 switching engines and 25 Mikado type freight engines.

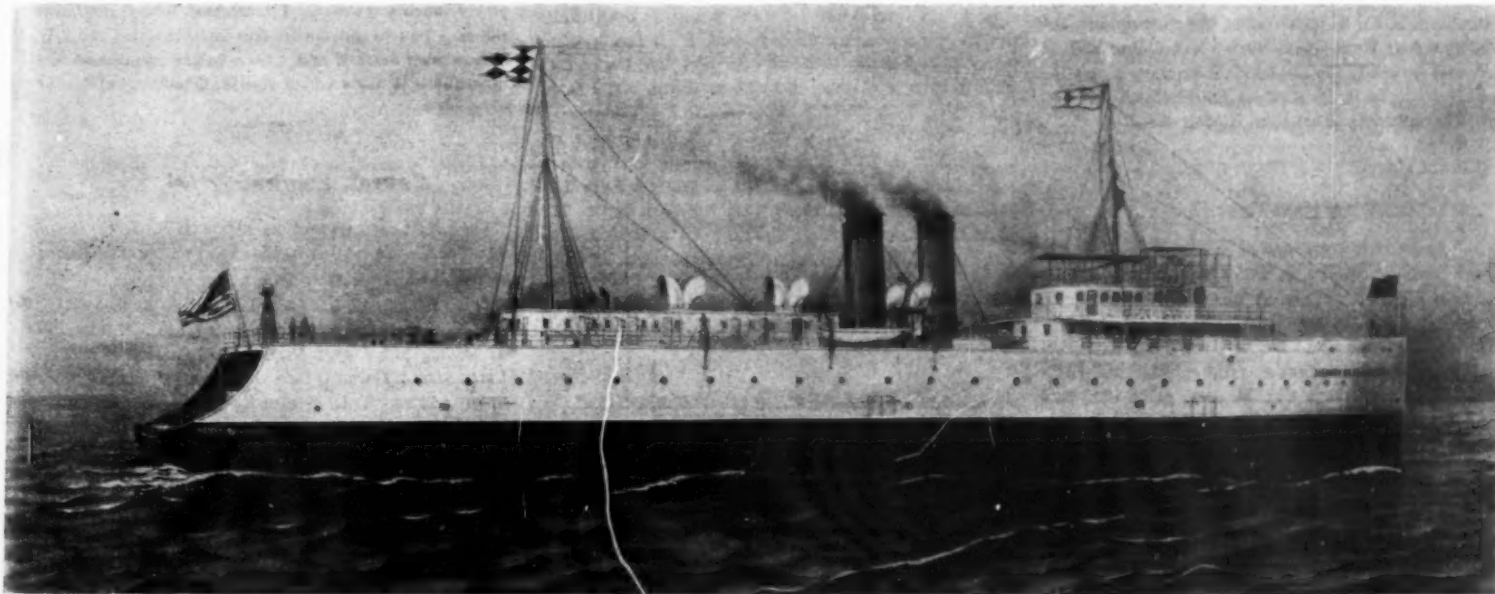
Carolina, Atlantic & Western Railway has ordered 3 10-wheel locomotives and 1 switching locomotive from the American Locomotive Co.

Jane Oil & Gas Co., St. Louis, is reported to have placed an order for 150 tank cars, of which 100 will be built by the Pennsylvania Tank Car Co. and 50 by the American Car & Foundry Co., St. Louis.

St. Louis, Brownsville & Mexico Railway, according to a report from Victoria, Tex., will soon put in service 800 freight cars and some new locomotives.

"Cochrane Line" Into Mobile.

The Alabama, Tennessee & Northern Railway, known as the "Cochrane Line," has made arrangements with the Southern Railway for complete trackage rights for all of its trains, passenger and freight, from Calvert to Mobile, about 30 miles. The trains on reaching Mobile will be switched to their own terminals, which are ex-



THE "HENRY M. FLAGLER," RAILROAD FERRYBOAT, KEY WEST-HAVANA.

tensive. President John T. Cochrane has for a year been preparing them, and has constructed piers, etc., which are now ready for use. The company operates about 230 miles of railroad through Pickens, Sumter, Choctaw, Washington and Mobile counties, from Reform via York to Calvert. The operation of its trains into Mobile will begin February 1. At present and for some time past traffic originating on its line has been handled to Mobile by interchange with the Southern Railway.

Purchase of a Railroad.

The Williamsville, Greenville & St. Louis Railway, 35 miles long from Williamsville to Cascade, Mo., all in Wayne county, is purchased, according to a report from Pana, Ill., by James H. Downs of Assumption, Ill.; Mrs. Ora Belle Ridgely of Kansas City, Mo.; James K. Cochran and S. A. Cochran of Pana, who, with J. T. Long and C. A. Long of Greenville, Mo., recently secured a charter for the Ozark Valley Railway Co. between Williamsville and Cascade. The road has been in hands of a receiver, Robert E. Slowey of Greenville, for some time. The new charter is for an electric railway, and presumably the line will be converted from steam operation to the newer motive power. It connects at Williamsville with the Missouri Pacific system.

East & West Coast Railway.

W. B. Wilson, vice-president East & West Coast Railway Co., Bradentown, Fla., says that about 36 miles of its 53-mile line from Bradentown to Arcadia, Fla., are now completed. Work was begun at Bradentown, and it is expected to finish the line to Arcadia in the early part of 1915. The road will be operated with steam locomotives. Offices are at Bradentown. Allen W. Jones is president. Only these two officials have thus far been chosen.

Finley Yards to Open January 3.

A report from Birmingham, Ala., says that the Finley Memorial Yards of the Southern Railway, representing an initial investment of \$1,500,000, will be put in service January 3. A description of the yards was published several months ago in the MANUFACTURERS RECORD.

Railroad Notes.

The Missouri & North Arkansas Railroad, according to a report from Heber Springs, Ark., has just finished filling in a large trestle over Pattons Hollow, near Pangburn. The trestle was very high, and it was desired to eliminate it as soon as possible. It is said that the road will now fill in another trestle near Leslie, Ark.

The Piedmont & Northern lines, electric interurban company, is completing a new passenger station at Spartanburg, S. C., to which point the railway was extended this year from Greenville. The building will, it is expected, be ready for use between January 1 and 15. It will have an umbrella shed on the platform 175 feet long. The station is situated on Spring street.

To Mine 1000 Tons Daily.

A daily output of 1000 tons of coal is planned by the Sabine Smokeless Coal Co., which has been organized at Maben, W. Va., to develop 700 acres of coal land. This company will install electrical equipment throughout to mine the Pocahontas and Fire Creek seams of New River. It wants prices on mine equipment, including electrical machinery, tipples, cars, rails, etc., and C. H. Mead, manager, should be addressed regarding these purchases. Officers are as follows: President, J. C. Sullivan of Mullens, W. Va.; vice-president, J. A. Wood of Sullivan, W. Va.; secretary, Harvey Ewart of Hinton, W. Va.; treasurer and manager, C. H. Mead of Maben.

The assessed value of property in Texas is \$2,743,078,976, an increase over 1913 of \$43,170,985.

FOREIGN NEEDS

Machinery and equipment wanted abroad are mentioned in many letters received by the MANUFACTURERS RECORD, which is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. For the benefit of our subscribers seeking foreign trade we publish the following extracts from recent letters:

For the Trade of Spain.

Manuel Auge, 23 Paseo De La Diputacion, Barcelona, Spain, writes to the MANUFACTURERS RECORD as follows:

"I act as manufacturers' agent at wholesale, on commission basis, and I beg you to connect me with some manufacturers of the products in which I am interested, as follows: Drugs and chemicals; toilet preparations and soaps; perfumery articles; pharmacy products; hygienic products; medical specifics; printing inks; writing inks; anilines; indigo (vegetable or synthetic); printing papers; writing paper and envelopes; carbon paper and typewriter ribbons; postal cards; furniture; iron and metal beds (high class); moving picture films; artificial silk. Also I wish to represent the following firms, whose articles my customers are asking for every day, because the German and French manufacturers cannot cover the necessities of the market; Anglo-American Drug Co., New York; E. Burnham, Chicago; Colgate & Co., New York; Davis Soap Co., Chicago; B. S. Fahnestock Sons & Co., Liberty Station, Pittsburgh; Venus Manufacturing Co., Chicago; Wright Indian Vegetable Pill Co., New York; Cincinnati Soap Co., Cincinnati, O.; Palm, Fechtler & Co., New York; Botanical Decorating Co., New York; Shmitz-Horning Company, Cleveland, O.; Tablet & Ticket Co., Chicago; Woodruff Company, Akron, O.; Frank W. Williams Company, Chicago; Ault & Wiborg, New York; Mallinckott Chemical Works, New York. If you can do something in my behalf about some of the above firms please do it, and I also can secure some business for you if you are interested in Spanish products. Please take note that I am very familiar with the conditions and requirements of all the Spanish markets, as well as with the standing of the buyers, and I beg you to know that I am prepared to furnish first-class references and any kind of substantial guarantee required. Please publish in your review that I desire to develop correspondence with the manufacturers."

Iron, Steel, Metals and Hardware.

Hugh Girvan, 120 Cannon street, London, E. C., England, writes to the MANUFACTURERS RECORD as follows:

"I have been representing important Belgian interests in the iron, steel, metals and hardware trades, but owing to the war this business has come to an end and I do not see any immediate prospect of it being resumed. As I am convinced there is now an opportunity for American manufacturers to come in, it has occurred to me that probably some of your advertisers may from time to time apply to you to know if you could introduce them to a British representative. Therefore, I take this opportunity of stating that if you have any applications of this kind I shall esteem it a favor if you will keep my name in front of you. I have first-class connections with the principal British export merchants to the colonies and the large home trade buyers. My bankers are the Bank of Scotland, London, and I can refer any of your friends to the chief exporters as to my abilities to make sales."

Canada Wants American Manufactures.

D. T. Devienne, care Dictating Machine Co., 45 St. Alexander street, Montreal, Canada, writes to the MANUFACTURERS RECORD as follows:

"On account of this country being in warfare with Germany and Austria, the cheaper lines of builders' hardware sundries are not being imported now, and there is a big field for the American articles of this nature right here in Canada. Here in the Province of

Quebec there are over 75 per cent. of French-speaking inhabitants; that is to say, roughly, a population of 2,000,000 doing business almost entirely in the French language. I mention this because, being of French extraction and having the knowledge of both languages, I may say that I have an advantage as a salesman over many American traveling salesmen crossing the border to sell their goods, and in many instances if they understood French their orders would be larger. I am in constant business relations with the largest business interests here, such as railways, banks, large manufacturers, drug and chemical companies, steamship lines, etc. I am in a position to do a good business for American firms. In a few days I will send you a detailed list of articles that were formerly imported from abroad and consumed here in large quantities. This will give you a guide to the nature of goods that I should like to handle for some American manufacturers, and perhaps you may suggest names of manufacturers to whom I may apply for representation in Canada."

Supplies for Military Purposes.

Nicolas T. Karameros, 15 Aristotelous street, Athens, Greece, writes to the MANUFACTURERS RECORD as follows:

"The exigencies necessitated by the present European war, which seems to be of a long duration, and the fact that there are no markets open to this country, save yours, I trust I am not trespassing too much on your kindness in asking you to kindly introduce me to some good manufacturers making military boots, rifles, explosives for naval and military use, such as torpedoes, loaded cartridges, shells, etc.; tents, cotton and woolen khaki cloth, winter and summer ready-made khaki uniforms, leather for military boots, belts, etc., and generally everything coming within the scope of military department. Be kind enough to mention at the same time in your introduction that it is very urgent that I should at once be supplied with samples, prices and terms and conditions, as well as information whether they can deliver in a short time and from stock if possible."

Wants Agencies for Bulgaria.

Leon H. Bassan, premiere agence agricole, Sofia, Bulgaria, writes to the MANUFACTURERS RECORD as follows:

"I thank you very much for the list of firms engaged in making agricultural implements. I am making offers of my services to these houses, and I trust some of them will be willing to do business with me and make me their agent for Bulgaria. The American products which interest me above all are such as could be used in large quantities. I would not like to name these articles at the outset, but notwithstanding that I beg you to invite some of your houses to get in contact with me for patent articles, especially such as are of ready sale pretty much anywhere. I trust that it will not inconvenience you to aid me in this important matter. We have a good market, and I hope to get agencies of some importance in lines which you shall judge good."

Cement, Lubricating Oil, Etc.

G. Mossa, representative, 46 Rua S. Jose, Rio de Janeiro, Brazil, writes to the MANUFACTURERS RECORD as follows:

"The business I am establishing here is to represent first-class foreign manufacturers. I am beginning now in Brazil, but I represented some American firms in Peru, where I was before coming here. Among other manufacturers I have already the agency of Heury Weinhausen, New York, and am waiting a favorable reply from Cardwell Machine Co., Richmond, Va. Better than to accept your kind offer to request representation through an advertisement, I should prefer the name and address of a good firm for cement and another for lubricating oil. I don't buy for my account, I only represent on a commission basis the manufacturers that give me their agency. From time to time I shall visit the other States of this republic."

MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

A New Southern Product Supplanting Foreign Material.

"Pottery" tile and brick is a new Southern product manufactured by the B. Millin Hood Brick Co., 1014-34 Candler Building, Atlanta, Ga., from high-grade shale mixed with pulverized pottery secured from broken fragments of whiskey jugs, being the waste product of a pottery plant. About the same proportion of pulverized jugware is mixed with shale as steel is used in the reinforcing of concrete. This gives a backbone to the brick and tile, so that they can be burned at very high temperatures, thus producing physical and chemical changes wherein the beautiful colors and rich textures are secured.

This product is made in 80 different shapes and in three different textures — Art, Matt and Oriental textures. It is claimed to be ideal for fireplaces of special design, interiors, sun parlors, rathskellers, porch and terrace floors, wainscoting, garden walks, driveways, landscape effects, inserts, panels and friezes, and it is so thoroughly vitreous it will not disintegrate in Canadian winters.

At the present time the company reports that this brick and tile are extensively used in the construction of sulphuric and nitric acid plants because they are insoluble in these acids. A recent order was received from the Southern Power Co. of Charlotte, N. C., for 40 carloads of "Pottery" tile and brick for its new nitric acid plant, whereas all previous purchases had been made from Germany.

In developing and manufacturing "Pottery" tile and brick Mr. Hood, the president of the company, has not only created a new product, utilizing in part a waste material, but a product that competes with foreign-manufactured goods.

Cutting Steel Plate With "Oxy-Pintsch" Flame

At the docks of the Skinner Shipbuilding & Drydock Co., Baltimore, an interesting demonstration was lately given of cutting steel by an "Oxy-Pintsch" gas torch, developed by the Pintsch Compressing Co., 2 Rector street, New York, manufacturer of "Oxy-Pintsch" cutting and welding equipments.

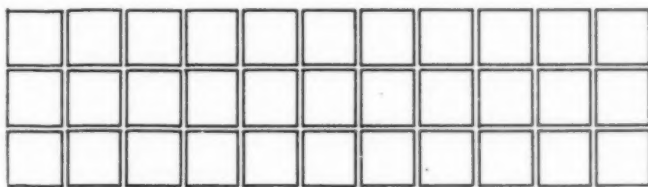
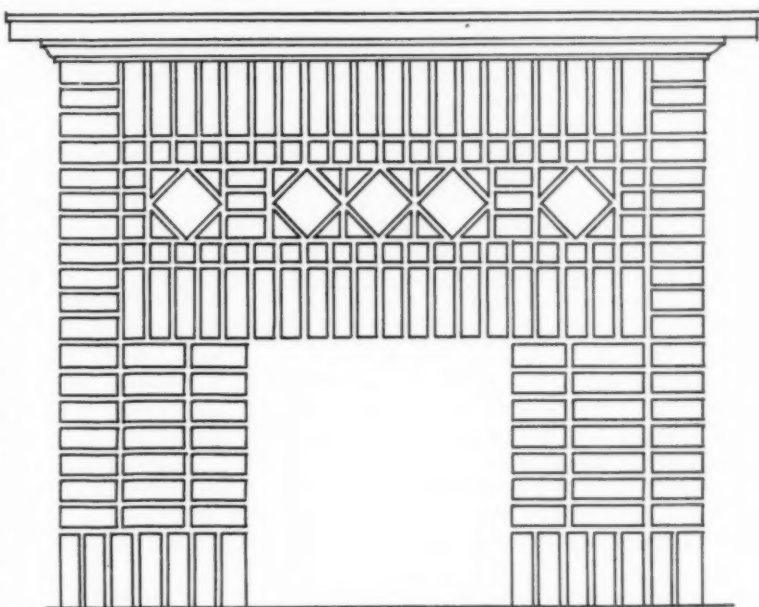
The ship M. I. Mandal, heavily laden with grain for Europe, collided with a vessel in a dense fog off the Virginia capes, crushing and crumpling the bow of the Mandal throughout from the keel up to the top of the cut water. In some places the steel plates were bent back in five or six folds. The Skinner Shipbuilding & Drydock Co. undertook to dock the ship without disturbing the cargo and to rebuild the bow within a very short period, the first step being to remove the crumpled plates, to be followed by the building of a new bow.

In order to effect the repairs within the time limit it was determined to try out the Pintsch system of metal cutting by torch, and the demonstration was put in the

hands of the Metropolitan Lighting Co. of Baltimore, the distributing agents for the Pintsch Compressing Co.

With an operator using a single torch, the entire damaged metal, running from three-eighths to one-half inch in thickness, is said to have been cut with the "Oxy-Pintsch" flame in 40 hours, which in places cut through six thicknesses of crumpled plate and through the steel cut water or stem, 4x8 inches in cross-section. Ninety per cent. of the work was carried on by a green hand, who had never before seen the process of metal cutting by torch. Some 300 feet of excellent Danish steel were cut by this economical process, one man effecting the work of a large gang of chippers at a minimum of expense.

The Pintsch Compressing Co. also produces "Isolite," a non-poisonous gas for cooking and illuminating purposes, which is furnished in compressed tanks, for farmhouses, country clubs, small town residences, stores, hotels, camps, etc.



"POTTERY" TILE AND BRICK FIREPLACE DESIGN.

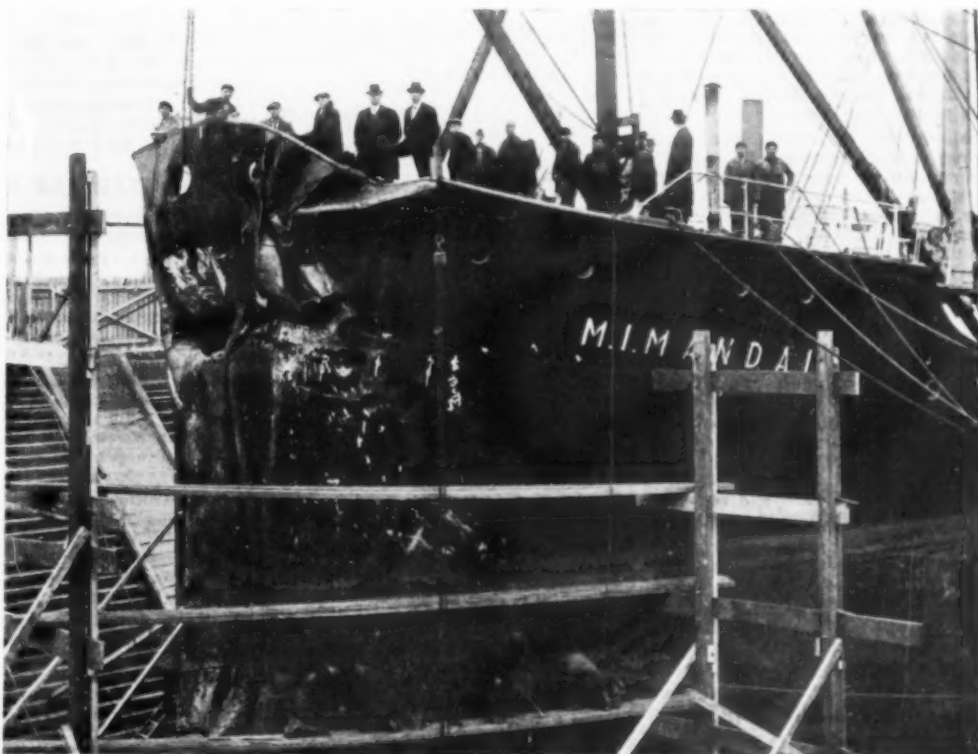
I. O. C. High-Pressure Gas Valve.

A new high-pressure gas cylinder stud valve, recommended for oxygen, hydrogen, nitrogen and similar gases for pressures up to 2500 pounds, has been developed by the International Oxygen Co., 115 Broadway, New York. The valve is made of metal throughout, no packing being used in any part, with the body portion of forged tobin bronze, while the other parts are made of suitable materials which are non-corrosive to gases and weather conditions. Every part is said to be accessible, and if worn out, can be easily replaced at little expense.

The diaphragm, which takes the place of packing, is made of tough and springy material that will withstand strain put upon it without cracking or breaking, even after many years of service. It is slightly concave, and is normally set away from the seat of the valve a sufficient distance to permit a full opening of the valve. As it is not necessary for the gas to raise the diaphragm, all the gas from the cylinder can be used, down to atmospheric pressure.

In the I. O. C. HIGH-PRESSURE GAS VALVE, valve the safety

plug, which is an essential part of any high-pressure valve, is said to have received the approval of the Bureau of Explosives of the Interstate Commerce Commission. The plug is filled with fusible metal melting at or below the boiling point of water. It is provided with three passages, each in a straight line with the direct action of the gas in the cylinder to permit the outflow of the metal, and is further provided with a hemispherical seat and a phosphor-bronze disc. This safety plug is screwed into the body of the valve and forms a tight seat by compressing the phosphor-bronze disc. No part of the plug projects beyond the body of the valve, thus protecting it against breakage. The safety plug will not blow when submitted to the direct rays of the sun or any other atmospheric condition, it is claimed, but will blow when placed in a fire before the expansion of the gas can do any damage to the cylinder.



BOW OF S. S. "M. I. MANDAL" BEFORE REPAIRING.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Fla., South Jacksonville.—Florida East Coast Ry., M. Riddle, Gen. Mgr., St. Augustine, Fla., has begun preparatory work for rebuilding wooden portion of bridge over St. Johns River with concrete and steel span over channel of river; about 300 yds. concrete bridge.

Ga., Atlanta.—Chas. A. Kauffman, City Designing Engr., will prepare plans for 2 stone bridges across lake in Lakewood Park. (See Bldgs Proposed, City and County.)

Miss., Vicksburg.—Supvrs. Warren and Hinds counties let contract Vincennes Bridge Co., Vincennes, Ind., at \$9708 to construct 530-ft. bridge over Big Black River at Holt's Ferry near Alabama & Vicksburg Ry.; Engrs., Moore & Thomas, Vicksburg. (Call for bids lately noted.)

Tex., Beeville.—Bee County Comms. let contract S. M. Bailey of Victoria at \$3000 to construct concrete bridge over San Domingo Creek; and to Austin Bros. of Dallas at \$2350 to construct steel bridge over Toro Creek; T. M. Cox, County Judge. (Call for bids lately noted.)

Tex., Waco.—City votes Jan. 22 on \$12,000 bonds to construct bridges. Address The Mayor.

CANNING AND PACKING PLANTS

Fla., Fort Meade.—Fort Meade Citrus Growers' Assn. let contract (lately noted) to R. E. Lee, Fort Meade, to erect packing plant; 90x100-ft. \$2500 structure; galvanized walls and roof; will install machinery to wash, dry and slice citrus fruits; daily capacity 3 cars citrus fruits and vegetables; W. B. Gardner, Prest., and C. H. Walker, Secy of Assn.

Miss., Big Point.—Big Point Canning Co. will build plant; H. C. Herrington, B. S. Koopman and C. A. Graham, Com.

Va., Tazewell.—C. N. Petty of Rustburg, Va., is promoting organization of company to establish cannery.

CLAYWORKING PLANTS

Okla., El Reno.—Bricks.—El Reno Brick Co. inceptd. by Henry Schaefer, D. E. Collins, L. B. Myers and others.

COAL MINES AND COKE OVENS

Ky., Ages.—Republic Coal Co. organized to develop coal mines in Harlan county; install electrically equipped plant at Ages.

Ky., Manchester.—Edwin W. Gearhart, Traders' Bank Bldg., Scranton, Pa., and others purchased 30,000 acres coal and timber lands in Kentucky; plans not ready for announcement.

Ky., Sturgis.—West Kentucky Coal Co. has placed all contracts for lately-noted rebuilding coal tipples at mine No. 2; daily capacity of mines 800 tons.

Okla., Oklahoma City.—Oklahoma County Comms. let contract Oregonia Bridge Co., Oklahoma Bldg., Oklahoma City, and Lebanon, O., to construct 2 steel bridges; cost \$5300. (Bids lately noted.)

Okla., Poteau.—American Coal Co., capital \$1000, inceptd. by T. P. Milner, Abbie Milner and Hugh Doak.

W. Va., Morgantown.—Wilfong Coal & Coke Co., capital \$10,000, inceptd.

W. Va., Philippi.—A. T. Thompson Co., capital stock \$100,000, inceptd. by A. S. Dayton, Gordon B. Ramsay, A. S. Hawkins and others.

W. Va., Kanawha County.—Campbells Creek Coal Co., Cincinnati, O., purchased 4974 acres coal land.

CONCRETE AND CEMENT PLANTS

Tex., Hamlin.—Cement Plaster.—Texas Cement Plaster Co. (lately noted inceptd., capital stock \$64,000), advises does not contemplate any improvements at present; S. M. Gloyd, Prest.; O. R. Rogers, V.-P.; Guy McNeal, Supt.; T. W. McGahan, Secy.-Treas.

COTTON COMPRESSES AND GINS

La., New Orleans.—Port Comms., Ernest M. Loeb, Prest., modified specifications, eliminating sorting sheds, etc., and let contract at \$994,846 to Jefferson Construction Co., New Orleans, to construct buildings for compress No. 1, power-house, garage, etc.; heavy reinforced concrete on creosoted pile foundation, etc.; lately noted. (See Building News, Contracts Awarded, under Warehouses.)

Tex., Conroe.—Conroe Gin, Ice, Light & Power Co. will rebuild plant reported burned at estimated loss of \$15,000.

DRAINAGE SYSTEMS

La., Gonzales.—Comms. New River Drainage Dist. of Ascension parish, Leon Picard, Prest., invite bids until Feb. 4 to construct drainage canals; about 2,000,000 cu. yds. excavation; \$175,000 bonds issued; lately noted. (See Machinery Wanted.)

S. C., Orangeburg.—Cowcastle Swamp Drainage Dist. Comms. received report on proposed plan of drainage, accompanied by complete set of maps and prints, from F. G. Eason, Drainage Engr., U. S. Dept. of Agriculture, Charleston, S. C.; drainage district is located between Orangeburg and Bowman and comprises 42,363 acres; estimated cost, \$186,371. (Noted in Aug.)

ELECTRIC PLANTS

Fla., Milton.—Water, Light & Sewerage Com. contemplates purchasing and installing 100-kva 60-cycle 2300-volt engine-driven generating unit; also to purchase material for about 1½ mi. transmission line, including transformers; H. A. Mentz is Engr.

Ga., Wadley.—City voted \$6400 bonds for electric-light plant; let contract Singleton-Smith Co. of Macon to install plant; storage-battery system.

Ga., Macon.—Macon Railway & Light Co. will enlarge electric-light system in East Macon; install 1700 c. p. lights to replace 52 lights of 700 c. p. each; ordered equipment.

Ky., Rockport.—Town Council grants franchise Dec. 24 to construct electric-light plant and water-works. Address Town Clerk.

La., Gretna.—City Council granted franchise Robley S. Stearns to furnish electric lighting; proposes to organize company and build plant.

Md., Baltimore.—City will alter and repair power plant at jail; Board of Awards receives bids at office Richard Gwinn, City Register, City Hall, until Jan. 6; drawings and specifications on file with C. E. Stubbs, Inspector of Buildings, on and after Dec. 28.

N. C., Whiteville.—Carolina Electric Co., H. C. McNair, Prest., Maxton, N. C., will install lately-noted electric-light plant; 3-phase, 60 cycles, 2300-volt, with series street-lighting system; steam plant, 125 H. P. boiler, with 80 to 100 H. P. automatic or Corliss engine; about 4 mi. transmission; connect Whiteville and Vineland; cost about \$10,000. (See Machinery Wanted.)

Tenn., Mason.—City contemplates issuing bonds to build electric-light plant. Address The Mayor.

Tex., Conroe.—Conroe Gin, Ice, Light & Power Co. will rebuild plant reported burned at estimated loss of \$15,000.

Tex., Lockney.—Wm. McGhee purchased Lockney Light & Power Co.'s property; will install engine and make other improvements.

Va., Clifton Forge.—Blue Ridge Power Co., capital \$300,000, inceptd.; W. G. Mathews, Prest.; A. C. Ford, Secy.-Treas.

FLOUR, FEED AND MEAL MILLS

Ga., Gainesville.—Gainesville Roller Mill will double capacity.

Okla., Pryor.—Pryor Mill & Feed Co., W. B. Allred, Mgr., advises that lately-noted mill is complete with exception of small electric (dynamo) equipment for gas engine and to supply about 15 lights in 2-story building.

Okla., Woodward.—Woodward Cotton Co., Jno. Raynor, Prest. and Mgr., will erect lately-noted mill and elevator; construction by company force; plans by Geo. Peek; machinery arranged for; mill building 20x40 ft., 3 story; elevator 24x24x60 ft.; cost \$10,000.

S. C., Darlington.—Darlington Wheat & Corn Roller Mills Co. will build 50-bbl. capacity mill; let contracts for machinery and building materials; Jas. R. Driggs, Prest.; W. L. Ward, V.-P.; C. M. Ward, Secy.-Treas. (Lately noted inceptd. with \$5000 capital.)

Va., Alberta.—E. R. Abernathy purchased site on which to build flour and grist mill; daily capacity 100 bbls.

FOUNDRY AND MACHINE PLANTS

Ark., Leslie.—Fence Posts.—Smith Fence Post Co., capital stock \$30,000, organized with D. H. Smith, Prest.-Treas.; Wm. Hen-

son, Secy., and Wm. Ashley, Cor. Secy.; proposes to manufacture steel fence posts. Ga., Macon.—Blacksmith Shop.—Road Board will build blacksmith shop, 30x60 ft.

Ky., Louisville.—Structural and Sheet Iron. Pyne Co. succeeds W. T. Pyne Mill & Supply Co. at 1301 W. Main St.; after April 1, 1917 Rupp St.; will erect buildings; construction by company's force; Fred W. Hardwick, Prest.; Jas. H. Cocke, V.-P.; John H. Cowles, Secy.-Treas.

N. C., Raleigh.—Machine Shop.—Raleigh Iron Works Co., Wm. T. Harding, Prest. and Mgr., will construct lately-noted addition by day labor, C. V. York, Supt.; erect 40x50-ft. foundry and 44x73-ft. machine shop addition; mill construction; machinery purchased.

Va., Graham.—Blacksmith Shop, etc.—W. P. Hagy will build blacksmith and general repair shop and garage; let contract R. H. Mathews to erect building to cost about \$2800.

GAS AND OIL ENTERPRISES

Fla., West Palm Beach.—Gas Plant.—Frank D. Mosler, Engr., Trenton, N. J., applied for franchise to establish gas plant; Dr. T. S. Kennedy of West Palm Beach is also interested.

Okla., Oklahoma City.—Big Anticline Oil Co., capital stock \$5000, inceptd. by P. M. Conway, D. T. Conway and F. W. Whitney.

W. Va., Parkersburg.—Drift Fork Oil & Gas Co., capital \$10,000, inceptd. by Thos. B. Joyce, B. H. Temple, V. A. Gartlan and C. E. Smith.

ICE AND COLD-STORAGE PLANTS

Ark., Leslie.—Co-operative & Cold-Storage Co. will be organized to build cold-storage plant.

Fla., Umatilla.—Umatilla Ice & Storage Co., capital stock \$10,000, inceptd. by P. C. Turner, F. H. Price, J. W. Poole and G. J. Griffin.

N. C., Winston-Salem.—Morris & Co. of Chicago are having plans prepared for cold-storage plant; 51x100 ft.; rear 80 ft. wide; 3 stories and basement; brick; concrete basement.

Tenn., Nonconah, P. O. Memphis.—Illinois Central R. R. Co.'s lately-noted plant probably be in operation by April 1; contract let to Railways Ice Co., Newton, Kans.; 150 tons daily capacity, with 6500 tons storage; plans and specifications being prepared by Robt. M. McCandlish Engineering Co., Suite 724-25 Midland Bldg., Kansas City, Mo.

Tex., Beaumont.—Ward Packing Co. contemplates building cold-storage plant with capacity of about 20 carloads meat.

Tex., Conroe.—Conroe Gin, Ice, Light & Power Co. will rebuild plant reported burned at estimated loss of \$15,000.

LAND DEVELOPMENTS

Fla., Clearwater.—Anclote River Land Co., capital stock \$100,000, inceptd.; J. B. Lyon, Prest.-Treas.; Colquitt Johnson, V.-P.; Alonzo B. McMullen, Secy.

Ga., Dublin.—Izzie Bashinski engaged E. B. Cooke, Archt., Hillier Bldg., Atlanta, to prepare plans for beautification of private grounds; improvements to include grading, road construction, walks, etc.

Md., Ocean City.—Atlantic City Development Co. of Maryland, E. L. Tunis, Prest., 120 E. Lexington St., Baltimore, Md., will develop coast tract near Ocean City, install water-works and railway; contemplates cement sidewalks and concrete streets. (See Machinery Wanted.)

Mo., St. Louis.—Minden Town Co., capital stock \$12,500, inceptd. by Isaac H. Orr, F. N. Ryan, John H. McManus and others.

Tex., Santo.—Livestock.—Santo Land & Livestock Co., capital stock \$30,000, inceptd. by M. P. Barrow, J. H. Thornton and D. M. Irvin.

Va., Newport News.—Old Dominion Land Co., W. B. Livezey, Prest., will issue \$250,000 bonds for proposed improvement of portion of Casino property; plans contemplate opening of northern section and erection of concrete breakwater from Chesapeake & Ohio Ry. depot to shipyard.

LUMBER MANUFACTURING

Fla., Fort Myers.—Fort Myers Lumber Co., capital stock \$900,000, incptd.; E. T. Roux, Jr., Pres., and E. T. Roux, Sr., V.-P., both of Plant City, Fla.; M. S. Gonzalez, Secy.-Treas., Fort Myers, Fla.

Ky., Manchester.—Edwin W. Gearhart, Traders' Bank Bldg., Scranton, Pa., and others purchased 30,000 acres coal and timber lands in Kentucky; plans not ready for announcement.

Mo., Poplar Bluff.—Quercus Lumber Co. (subsidiary to Galloway-Pease Lumber Co.) will rebuild plant lately noted burned at estimated loss of \$40,000; estimated cost of new plant \$60,000.

N. C., Pisgah Forest.—Carr Lumber Co., Louis Carr, Pres., contemplates doubling capacity of plant; erect new building.

Tex., Manning.—Ryon Lumber Co. will build hardwood sawmill; daily capacity 25,000 ft.

METAL-WORKING PLANTS

Tex., Houston.—Brass.—National Brass Co., capital stock \$30,000, incptd. by G. F. Cotter, J. W. Cain and F. H. Littlell.

Va., Norfolk.—Steel Letters.—Crescent Steel Letter Works, O. H. Brown, Propr., Slate Hill, N. Y., leased building at 113 25th St., and will equip to manufacture steel letters and figures for lettering on steel and wood and steel plates.

MINING

Ala., Jasper.—Knolin.—John M. Gray, Walker County Sheriff, is interested in knolin development. (See Machinery Wanted.)

Mo., Joplin.—Lead and Zinc.—Bradley Lead & Zinc Co., S. M. Bradley, Pres., will develop 15 acres lead and zinc property; is purchasing equipment; lately noted at Chitwood, Mo., as to build 200-ton concentrating mill, etc. (See Machinery Wanted.)

Mo., Webb City.—Lead and Zinc.—Rice Mining Co., capital \$2000, incptd. by Geo. W. Kessler, Elmer Miles and K. C. Hillburn.

Okla., Commerce.—S. K. Ortt, Joplin, Mo., and others will develop 40-acre mining lease near Commerce.

N. C., Greensboro.—Gardner-Hill Mining Co. organized; W. T. Harris, Pres.; F. A. Silver, V.-P.; J. M. Millikan, Secy.-Treas.; develop mining property; daily output 30 to 50 tons ore. (Lately noted incptd., \$100,000 capital.)

Tex., Bluffton.—Lead, etc.—Darling Mining Co., main offices, 107 City National Bank Bldg., Galveston, elected T. A. Kindred, Pres.; J. E. Howard, V.-P.; R. E. Yeargin, Secy.-Treas.; has 175 acres in Texas for development under lease and option; also 600 acres for development in Arkansas; arranged for machinery for present Texas operations; take up Arkansas properties later. (Lately noted incptd., under Tex., Burnet, with \$10,000 capital stock, etc.)

MISCELLANEOUS CONSTRUCTION

Fla., Miami.—Dock, etc.—Dr. H. A. Lawton is reported as planning to build dock 250 ft. long and 2-story boathouse 42x52 ft. at home place in Miami.

La., New Orleans.—Canal.—Board of Port Comms. considering construction canal connecting Mississippi River and Lake Pontchartrain, authorized by constitutional amendment recently adopted.

Tenn., Memphis.—Underpass.—City Comms. let contract Noll Construction Co. of Chattanooga at \$573 to construct underpass at Auction Ave. and North Memphis Levee.

Va., Newport News.—Breakwater.—Old Dominion Land Co., W. B. Livezey, Pres., will construct breakwater. (See Land Developments.)

MISCELLANEOUS ENTERPRISES

Ala., Anniston.—Grain Elevator.—Farmers' Union Warehouse & Storage Co., G. W. Eichelberger, Pres. and Gen. Mgr., is considering construction of grain elevator of 5000, 10,000 or 15,000 bus. capacity, to be operated in connection with warehouse; handle wheat, oats, corn and cottonseed; building plans not decided; fireproof construction. (See Machinery Wanted.)

Fla., Miami.—Garbage-disposal Plant.—City will build destructor plant by day labor under supervision of B. H. Klyce, City Engr.; may sublet portions of work, such as excavation, concrete work, etc.; estimated cost \$16,000. (Lately noted.)

Mo., St. Louis.—Cleaning and Dyeing.—Biliken Cleaning & Dyeing Co., capital stock

\$4000, incptd. by Chas. F. Dietrich, J. J. Dietrich and J. B. Horzendorfer

N. C., Yellow Hill (not a postoffice).—Laundry.—Government is reported to have let contract C. G. Logan of Sylva, N. C., to install laundry at Government school at Yellow Hill, Swain county.

Okla., Woodward.—Grain Elevator.—Woodward Cotton Co. will construct lately-noted elevator; 24x24x60 ft.; erection by company; machinery arranged for; previously stated to have 20,000 bus. capacity. (See Flour, Feed and Meal Mills.)

Tex., Fort Worth.—Paving Contracting.—Roach-Manigan Paving Co. increased capital stock from \$63,000 to \$150,000.

Va., Front Royal.—Automobile Line.—W. Jackson Turner contemplates establishment of auto truck and bus line between Front Royal and Rappahannock county points; will need equipment. (See Machinery Wanted.)

Va., Norfolk.—Publishing.—Mutual Weekly Publishing Corp., capital \$12,500, chartered; Geo. E. Vogler, Pres.; L. M. Jordan, Secy.

Va., Richmond.—Roofing.—R. E. Piper Roofing Co., capital \$10,000, incptd.; E. J. Latta, Pres.; R. A. Conway, Secy.-Treas.

MISCELLANEOUS FACTORIES

Ala., Brundidge.—Peanut Oil.—Brundidge Fertilizer Co. contemplates installing equipment to extract oil from peanuts. (See Machinery Wanted.)

Fla., Tampa.—Cigars.—Moises Bustillo is reported to establish cigar factory.

Ga., Atlanta.—Bottling.—Atlanta Bottling & Distributing Co. incptd. by Gus Cuculla, E. C. Buchanan and R. M. Cook.

Ga., Atlanta.—Window Shades.—Rosenfeld Co. will install machinery to manufacture window shades.

Consolidated Engineering Co., Calvert Bldg.; Richardson & Williams, Equitable Bldg., all of Baltimore; bids due Jan. 4. (Lately noted.)

Mo., St. Louis.—Packing Cases, etc.—Sanitary Package Co., capital stock \$15,000, incorporated by A. J. Fitzsimmons, Enos L. and Gaines M. Walker and others to manufacture wood and fiber packing cases and boxes.

N. C., Raleigh.—Bottling.—Raleigh Lemon Kola Bottling Co. (lately noted incptd., capital \$5000) will rent building; has purchased bottling equipment costing about \$5000; manufacture lemon kola and general line soda water; J. W. Stone, Pres.; A. S. Adams, V.-P.; R. R. Hooker, Secy., Treas and Mgr.

Okla., Oklahoma City.—Films.—Eagle Film Co., capital \$12,000, incptd. by Wm. Tilghman of Oklahoma City, C. Madsen of Guthrie and E. Nix of St. Louis, Mo.

Tenn., Knoxville.—Clothing.—Cowan, Tate & Co., capital stock \$102,000, incptd. by D. E. Tate, Jas. H. Cowan, Frank Brown and others; succeeds Claiborne, Tate & Cowan, clothing manufacturers.

Tex., Bandera.—Creamery.—Bandera Creamery Co., capital stock \$4800, incptd. by J. F. Falt, Lee Resinger and R. I. Resinger.

Tex., Denton.—Peanut Oil.—L. H. Brady, Mgr. Denton Oil & Gin Co., contemplates installing machinery to manufacture peanut oil, peanut butter, etc.

Va., Richmond.—J. R. and F. R. Williams will repair factory building at 9th and Cary Sts.; cost \$2400.

Va., Winchester.—Gloves.—Winchester Glove Factory, capital stock \$20,000, incptd.; A. J. Merrill, Pres.; T. K. Cather, Secy.; R. L. Hortman, Mgr.; erect 20x24-ft. \$500 building; Strickler & Wagner, contractor, Winchester; install machinery to manufacture

londs to construct roads. R. L. Bradley, Probate Judge. (Lately noted.)

Fla., Miami.—City will grade and pave following streets with Miami Coraline rock: Ave. M, 8th to 10th St., width 16 ft., about 700 ft.; Ave. F, 18th to 20th St., width 16 ft., 700 ft.; Ave. L, 1st to Johnson St., width 16 ft., 395 ft.; 24th St., Brickell Ave. eastwardly 606 ft. (to include concrete curbs and gutters); Miami Ave., Broadway to city limits, width 18 ft., 10,043 ft.; City Council invites bids until Jan. 7; W. B. Moore, City Clerk. (See Machinery Wanted.)

Fla., St. Augustine.—City relet contract Seth Perkins & Sons to pave Cincinnati Ave.; rescinded recent action; L. Pomar, City Clk. (Lately noted.)

Fla., Tampa.—City will build 50,000 lin. ft. concrete curb and gutter; invites bids until Jan. 5; also invites bids until same date to furnish 50,000 lin. ft. granite curbing f. o. b. Tampa; D. B. McKay, Chrmn., Board of Public Works. (See Machinery Wanted.)

Fla., Tampa.—City will repave Tampa St. from Polk to Cass St.; about 1000 sq. yds.; work to consist in taking up and relaying old pavement and grouting joints with asphalt filler; also to furnish new brick necessary; Comms. of Public Works, D. B. McKay, Chrmn., invite bids until Jan. 5. (See Machinery Wanted.)

Ky., Louisville.—City let contract F. G. Breslin, Louisville, for lately-noted construction; 40-ft. roadway, granite in tracks; bituminous concrete sides; 16,950 cu. yds. excavation; 10,340 sq. yds. granite; 9838 sq. yds. bituminous concrete; D. K. Lyman, Engr.

Ky., Louisville.—City will pave Hill St. from 4th to 6th St. with bituminous concrete; vitrified brick gutters and granite block stringers; Board of Public Works receives bids until Jan. 11. (See Machinery Wanted.)

La., Alexandria.—Rapids Parish Road Dist. No. 2 votes Jan. 19 on \$100,000 bonds to construct roads. C. E. Robinson, Pres. Police Jury.

Md., Baltimore.—City will grade Woodberry Ave. from Railroad Ave. to Hoopes Ave., contract No. 137; about 5000 cu. yds.; bids until Jan. 6; John L. Sanford, Pres. Comms. for Opening Streets. (See Machinery Wanted.)

N. C., Pittsboro.—Haw River township of Chatham county will construct about 25 mi. sand-clay roads; W. C. Maddox, Moucur. N. C., official in charge. (Lately noted as voting \$20,000 bonds.)

N. C., Smithfield.—Johnston county, 1st gram township, will sell \$40,000 bonds for road construction. Address Com. J. Comms.

N. C., Wadesboro.—Anson county will construct about 6 mi. sand-clay or gravel road from Wadesboro to Morven township line; bids until Jan. 4; Engrs., Kiker & Carr, 406 Trust Bldg., Durham, N. C.; D. M. Johnson, Secy. County Comms. (See Machinery Wanted.)

Okla., Madill.—Marshall county, Edwin Kirk, Clerk, will construct lately-noted roads; \$35,000 available; 55 mi. stone and concrete culverts; open bids Jan. 4; Chas. E. Hagerty, Engr., Muskogee, Okla. (See Machinery Wanted.)

S. C., Aiken.—Aiken County Comms. let contract H. P. Dykes and B. F. Holley of Aiken at \$11,500 to construct portion South Carolina post road from Aiken to Barnwell county line, about 19 mi.; 18,500 cu. yds. excavation and 24,000 cu. yds. sand-clay surfacing. (Call for bids lately noted.)

Tenn., Chattanooga.—City contemplates \$150,000 bond issue for street improvements; property owners to pay two-thirds of cost, making total expenditure \$450,000; Robt. Hooke, City Engr.

Tenn., Chattanooga.—City will pave and lay combined cement curb and gutter on Main or Tremont St., North Chattanooga, bid No. 1; about 2542 ft.; paving material to be chert, asphalt macadam, asphalt concrete or concrete; also grade and construct chert road on Dodd Ave., Fifth Civil Dist., from Palmetto to 10th St., bid No. 2; grade and construct chert roadway on Bell Rd., Sixth Civil Dist., near old Farris house, at Harrison, Tenn., bid No. 3; Road Comms. (H. H. Crox and others) invite bids until Jan. 6. (See Machinery Wanted.)

Tenn., Wartburg.—Morgan county will build about 80 mi. pike roads; let contract Jan. 2; sale of \$270,000 bonds previously noted; plans and specifications at engineer's office, Wartburg. Address Chas. A. Quinn, Secy., Lansing, Tenn. (See Machinery Wanted.)

Tex., Corpus Christi.—City will vote within 30 days on \$100,000 bonds to pave streets. Address The Mayor.

PROPOSAL ADVERTISEMENTS

IN THIS ISSUE

PUBLISHED ON PAGES 74

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Ga., Camilla.—Bottling.—Camilla Chero-Cola Co., capital stock \$6000, incptd. by J. D. Whiting, C. C. Baggs and J. J. Wicker.

Ga., Valdosta.—Cigars.—J. M. Kell & Co. will rebuild cigar factory reported burned.

Ky., Louisville.—Chemicals, etc.—Grant Mfg. Co., capital stock \$9000, incptd. by A. C. Grant, Roy E. Simms and Jos. L. Lenihan to manufacture chemicals and automobile specialties.

Ky., Louisville.—Grant Mfg. Co., capital \$9000, incptd. by A. C. Grant, R. E. Simms and Jos. Lenihan.

Ky., Louisville.—Paper Boxes.—Kentucky Paper Box Co. increased capital from \$40,000 to \$50,000.

Ky., Woodburn.—Automobile Specialties.—Southeast Automobile Specialty Corp., capital \$2000, chartered by H. O. Kirby, L. J. Kirby and Edna Kirby.

La., New Orleans.—Films.—National Poster Mounting Co. leased building 823 Perdido St.; will manufacture lithograph work for film companies in South.

Md., Baltimore.—Wm. Gislri, Sr., will erect building for light manufacturing on Guilford Ave., near Oliver St.; 2 stories; 42x80 ft.; reinforced concrete construction; slag roof; steam heat; electric light; freight elevator; cost about \$12,000; Callis & Callis, Architects, 2055 Kennedy Ave., Baltimore; plans ready about Jan. 15; address proposals to Jas. Smith, 1601 N. Broadway, Baltimore. (Recently reported to build at Calvert and Federal Sts.)

Md., Baltimore.—Paper Mill.—Paper Products Co., Frank W. Waterman, Mgr., 413 Keyser Bldg., will occupy on lease paper mill to be built at 16th St. and Second Ave., Canton, by Canton Co., Commerce and Water Sts., Baltimore; 70x192 ft.; brick and frame; composition roofing; electric lighting; Sanford & Brooks, Architects, Commerce and Water Sts., Baltimore; bidders are Sanford & Brooks, Commerce and Water Sts.; Chas. L. Stockhausen, National Marine Bank Bldg.; West Construction Co., Knickerbocker Bldg.;

cotton and jersey gloves; daily capacity about 75 doz. pairs.

MOTORS AND GARAGES

Ky., Louisville.—Assembling Plant.—Ford Motor Co. of Detroit, Mich., will build plant; site to comprise 20,000 sq. ft.; plans call for 6-story structure of reinforced concrete.

N. C., Greensboro.—Garage.—C. O. Forbis will erect lately-noted garage; 144x28 ft.; mill construction; let contract Lanning & Cole, Greensboro.

N. C., Greensboro.—Automobiles.—Guilford Motor Car Co., capital \$125,000, incptd. by W. L. Strawbach, R. M. Clapp and S. L. Alderman.

Tex., Houston.—Automobiles.—Magnolia Motor Sales Corp., capital \$12,000, incptd. by J. D. Kerr, Perry H. Carr and G. E. Gilmore.

Va., Graham.—Garage, etc.—W. P. Hagy will build general repair and blacksmith shop and garage; let contract R. H. Matthews to erect building to cost about \$2800.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Okla., Afton.—St. Louis & San Francisco R. R., V. K. Hendricks, Engr., St. Louis, Mo., is reported to install additional machinery in shops; equipment purchased.

ROAD AND STREET WORK

Ala., Columbiana.—Shelby county let contract Isaac Ellard, Birmingham, Ala., to grade and drain about 3 mi.; cost \$6542.36; H. H. Cobb, Jr., Engr., Anniston, Ala.; W. S. Keller, State Highway Engr., Montgomery. (Bids lately noted.)

Ala., Tuskegee.—City will improve streets; issued \$15,000 bonds; engineers surveying streets preparatory to submitting estimates. Address The Mayor.

Ala., Vernon.—Lamar county voted \$75,000

Tex., Corsicana.—Navarro county, Road Dist. No. 3, will construct 22 mi. roads; R. R. Owen, County Judge, received bids until Dec. 30; Geo. A. Duren, Highway Engr.

Tex., McKinney.—City will expend about \$55,000 (city's one-third of cost, total to be about \$165,000) on street paving; Chas. Schultz, City Engr., lately noted to prepare plans and estimates; open bids late in Jan. or early in Feb.

Tex., Sherman.—City will improve streets as follows: 26,000 sq. yds. paving, 1700 cu. yds. extra grading, 12,500 lin. ft. straight curb and gutter, 500 lin. ft. curved curb and gutter; distance to be paved 7300 ft.; bids invited until Dec. 28; paving materials considered to include asphaltic concrete, bitulithic, Hanson compressed concrete, vitrolithic, Dolanway concrete surfaced with asphalt, etc.; Henry Zimmerman, City Secy. (See Machinery Wanted.)

Tex., Sulphur Springs.—City will pave streets; 35,000 sq. yds. paving, 20,000 sq. yds. concrete curb and 12,000 cu. yds. earth excavation; bids at office City Secy. until Jan. 19; A. D. Stivers, City Engr. (See Machinery Wanted.)

Tex., Waco.—City votes Jan. 22 on \$15,000 bonds to pave streets. Address The Mayor.

Va., Manassas.—Washington & Valley Turnpike Co. has preliminary surveys to construct 22 mi. macadam road to form connecting link between Washington and Valley pike; secured franchise from Legislature and will issue \$150,000 stock.

Va., Richmond.—City will pave Grace St. from Robinson St. to Boulevard, and Floyd Ave. from Rowland St. to Boulevard; about 13,000 sq. yds.; Chas. E. Bolling, City Engr. (See Machinery Wanted.)

Va., Richmond.—City Administrative Board authorized Henrico County Suprs. to invite bids to construct one-half mi. water-bound macadam on Broad Street Rd., beginning at city limits, under \$100,000 appropriation (noted in Sept.) to improve county roads within 10-mi. distance from corporate limits of city; bids to be received at office State Highway Commr. until Jan. 11; specifications and other information furnished by same office; Chas. E. Bolling, City Engr. (See Machinery Wanted.)

SEWER CONSTRUCTION

Ark., Blytheville.—City let contract A. C. Brooks of Birmingham at about \$54,200 to construct sewers.

Fla., Atlantic Beach.—City will soon begin construction of proposed sewer system; plans prepared; contracts let for materials. Address The Mayor.

Fla., New Smyrna.—City votes Jan. 12 on \$63,000 bonds to construct sewer system, water-works and refund present indebtedness. Address The Mayor.

Ga., Macon.—City will construct sanitary sewer through property of Suburban Realty Co. in Vineville; plans by C. A. Caldwell of Trustees Georgia Academy for Blind; estimated cost \$12,000; Suburban Realty Co. and Georgia Academy for Blind to contribute \$5000; J. J. Gallford, City Engr.

Ky., Bowling Green.—City accepted proposition of Southern Asphalt & Construction Co. of Birmingham relative to specifications for sanitary sewer system with and without septic tank, purification and filter beds; A. Y. Patterson, Mayor.

Md., Baltimore.—City will construct lateral sewers and house connections in Dist. 5-B; 19,000 lin. ft. 8-in. to 20-in. sewer and 20,500 lin. ft. house connections; bids until Jan. 6; Chas. England, Chrmn. Sewerage Com. (See Machinery Wanted.)

Md., Baltimore.—City will construct Section 3 of Jones Falls Interceptor, sanitary sewer contract No. 142; 7000 cu. yds. earth excavation; 425 cu. yds. rock excavation; 1900 lin. ft. 50-in. brick and concrete flattened sewer; 675 lin. ft. and 1250 lin. ft. 27-in. sewers; 420 lin. ft. house connections; 12 tons cast-iron pipe and specials and 28,000 lbs. reinforcing steel; bids until Jan. 6; Calvin W. Hendrick, Ch. Engr. of Sewerage Com. (See Machinery Wanted.)

Okla., Wilburton.—City engaged Benham Engineering Co., Oklahoma City, Okla., as engineer and to supervise construction of sewers and water-works; upon filing of report and estimate probably call election on \$80,000 bonds.

S. C., Columbia.—City, L. A. Griffith, Mayor, will soon begin extension of sewer and water mains; \$200,000 voted by City Council. (Previously noted.)

Tex., Cleburne.—City will vote, probably in January, on bonds to construct sewer system. Address The Mayor.

Tex., Waco.—City votes Jan. 22 on \$14,000 bonds to construct sanitary sewers and \$4000 bonds to construct storm sewers. Address The Mayor.

TELEPHONE SYSTEMS

Ky., Sublett.—Licking Valley Telephone Co. inceptd. by C. S. Patten, H. R. Cordell, Lark Arnett and others.

Md., Hagerstown.—City will install police telephone, telegraph and flashlight system of 17 boxes and 17 flashlights, each to be divided into 4-circuit system; also plans improvements to fire-alarm system; total estimated cost, \$3837. Address The Mayor.

Tenn., Celina.—Celina Home Telephone Co. (lately noted inceptd., capital \$1000) reorganized; W. L. Brown, Pres.; C. R. Willis, Secy.-Treas.; H. H. Kyle, Gen. Mgr.; will rebuild old system, employing workmen to reconstruct lines.

TEXTILE MILLS

Fla., Apalachicola.—Knit Goods.—Chamber of Commerce plans establishment of knitting mill.

Tenn., Bristol.—Cotton Products.—Board of Trade is corresponding with Connecticut cotton manufacturers, who plan building 10,000-spindle cotton mill.

Tex., Austin.—Underwear, etc.—Austin Knitting Mills, capital stock \$25,000, will be organized by E. A. Orchard, J. Lee Costley, T. H. Barrow and others; install equipment to knit underwear, later to knit hosiery. (Lately noted.)

WATER-POWER DEVELOPMENTS

Ark., Glenwood.—O. E. Grimes, Tulsa, Okla., and associates closed options on land and frontage on Caddo River; propose construction hydro-electric plant developing 2500 H. P.; contemplate expenditure of \$250,000.

Tenn., Embreeville.—Tennessee Eastern Electric Co. of Johnson City will construct transmission line from Jonesboro to Embreeville, 8 mi.; power to be used in operation of zinc mines at Embreeville.

W. Va., Millville.—Northern Virginia Power Co., Winchester, Va., plans raising concrete dam across Shenandoah River to increase capacity hydro-electric plant.

WATER-WORKS

Ark., Little Rock.—Arkansas Water Co. let contract Crawford-Williamson Construction Co., Memphis, Tenn., to erect brick superstructure over present plant; circular pit 35 ft. diam.; daily capacity plant 10,000,000 gals.; reported cost \$20,000; J. W. Briggs, Jr., New York, Engr. (Lately described.)

Fla., New Smyrna.—City votes Jan. 12 on \$63,000 bonds to construct water-works, sewer system and refund present indebtedness. Address The Mayor.

Fla., Tampa.—Tampa Water-Works Co. contemplates expending \$40,000 to construct lately-noted reinforced concrete reservoir; capacity 3,500,000 gals.; C. C. Whitaker, Engr., Atlanta, Ga.; bids to be asked. (See Machinery Wanted.)

Ky., Rockport.—Town Council grants franchise Dec. 24 to build water-works and electric-light plant. Address Town Clerk.

Md., Baltimore.—City will build temporary frame gatehouse at New Loch Raven Dam at Loch Raven, Md.; Board of Awards receives bids at office City Register, City Hall, until Jan. 6; plans and specifications, proposal forms, etc., obtainable from Robt. L. Clemmitt, Acting Water Engr., City Hall, for \$5; Ezra B. Whitman, Consult. Engr.

Md., Chestertown.—Water Board (lately noted to erect tank, etc.) will expend \$25,000 on proposed construction; plans not completed; capacity of elevated tank to be 100,000 gals.; Hugh Downing, Engr., Dover, Del.

Miss., Philadelphia.—City contemplates issuing \$30,000 bonds to construct water-works. Address The Mayor.

Miss., Vicksburg.—E. M. Ellsworth, Chattanooga, Tenn., purchased Vicksburg water-works plant for \$230,000.

Okla., Wilburton.—City engaged Benham Engineering Co., Oklahoma City, Okla., as engineer and to supervise construction of water-works and sewers; \$80,000 bonds contemplated. (See Sewer Construction.)

S. C., Charleston.—City Council accepted recommendation of Committee on Water Supply to purchase plant of Charleston Light & Water Co. for \$1,500,000; Council also authorized expenditure of \$100,000 to improve system.

S. C., Columbia.—City, L. A. Griffith, Mayor, will soon begin extension of water

and sewer mains; \$200,000 voted by City Council. (Previously noted.)

S. C., North Augusta.—North Augusta Water & Gas Co., capital \$50,000, inceptd. by W. R. Dawson and C. R. Dawson.

Tex., Corpus Christi.—City postponed date of opening bids to construct water-works from Dec. 29 to Jan. 8; system to include pumping station, equipment and pressure filter plant; 79,564 lin. ft. 20-in. force line; 250,000-gal. elevated steel water tank; for force line bids are invited on cast iron, steel, wooden stave and other forms of pipe construction; \$300,000 bonds voted; Alex. Potter, Consult. Engr., 50 Church St., New York; H. A. Stevens, City Engr. (Call for bids lately noted.)

Tex., Killeen.—City engaged Pat Bracken of Temple to superintend construction of water-works now progressing; expending \$15,000. (Previously noted.)

Tex., Uvalde.—Uvalde Water-works Co. contemplates improving water-works.

Va., Dublin.—City votes Jan. 22 on \$5000 bonds to complete water-works and to purchase hose, reel, etc. (Address The Mayor.)

WOODWORKING PLANTS

Ark., Blytheville.—Sucker Pumps.—A. D. Cook of Lawrenceburg, Ind., is reported to establish sucker pump factory.

Ky., Louisville.—Furniture.—Folding Furniture Co. of Kentucky, 408 Keller Bldg. (lately noted inceptd., capital stock \$1000), organized; John L. Tinsley, Pres. and Mgr.; H. S. McBride, Secy.-Treas.; will not erect building; may open machinery bids about March; manufacture furniture accessories. (See Machinery Wanted.)

Miss., Hattiesburg.—Crossarms.—J. Marshall Frye & Co., Box 36, inceptd.; capital stock \$12,000; takes over business of J. Marshall Frye; no changes in building or machinery; manufacture yellow-pine crossarms; daily capacity about 30,000; officers not yet elected, but will include J. Marshall Frye, Pres., Treas. and Mgr., and H. L. Norworthy, Secy.

Mo., Kennett.—Cooperage.—Allen Cooperage Co., capital \$50,000, inceptd. by W. D. Lasswell, L. N. Allen and L. B. Erwin.

N. C., Mt. Airy.—Telegraph Pins, etc.—M. L. Dean contemplates establishing plant to manufacture telephone and telegraph pins, bobbins, handles, etc.

N. C., Statesville.—American Woods Corp. leased factory building 60x80 ft. and will equip.

S. C., Greenville.—Picker Sticks, etc.—Piedmont Hardwood Mfg. Co. organized with J. B. Broadenax, Pres., Rock Hill, S. C.; W. W. Carter, Secy.-Treas., and D. L. McKenzie, Gen. Mgr., both of Greenville; will incorporate with \$5000 capital stock; acquired building on Hudson St. and will equip to manufacture picker sticks, loom lays, all wooden parts of a loom and patented wooden lug strap.

FIRE DAMAGE

Ala., Decatur.—W. W. Garnett's store; loss about \$50,000.

Ala., Jasper.—Phillips-Stanley Co.'s store; loss \$75,000.

Ala., Selma.—Alex. Blum's restaurant; loss \$5000.

Ark., Argenta.—Topf & Wright's Hotel; loss \$5700.

Ark., Helena.—Gardner Dry Goods Co.'s store; loss \$17,000 to \$20,000.

Ark., Rogers.—Rogers Hotel, owned by H. T. Penn.

Fla., Ybor City, Ind. Sta. Tampa.—P. San Martin's cigar factory at 2d Ave. and 20th St.; owners, Wilfred and Guy Clarkson; total estimated loss \$20,000.

Ga., Camilla.—Spence Drug Co.'s store; Citizens' Bank Bldg.; R. E. L. Spence's Bldg.; loss \$25,000.

Ga., Millwood.—Wallace Wilson's residence near Millwood; loss \$4000.

Ga., Savannah.—Store at 208-10 W. Broad St., owned by Geo. Christopher and Marcus & Co.; loss \$100,000; L. Mirsky's Bldg. at 212 W. Broad St., loss \$20,000.

Ga., Tignall.—G. B. Adair's residence near Tignall.

Ga., Uvalde.—Morris & Hart's store; M. B. Allen's store; P. J. McNatt's store.

Ga., Waycross.—Mrs. E. C. Miller's residence, owned by John W. Moore, St. Louis, Mo.

Ga., Valdosta.—J. M. Kelly & Co.'s cigar factory.

Ky., East Point.—J. C. B. Auxier's store; loss \$7000.

Ky., Beckton, R. F. D. from Glasgow.—John Barrick's dwelling and feed barn; loss \$4000.

Ky., Glasgow.—L. E. Pitcock's residence; loss \$3000.

Ky., Hyden.—T. G. Lewis' residence and hotel; loss \$15,000.

Ky., Louisville.—Residence of Dr. Thos. J. Turner, Prest. of California Good Health Co., 1206 S. 4th St.; loss \$6000.

Ky., Louisville.—Warehouse, occupied by The Gem, of which H. H. Newmark is Prop.; loss \$20,000.

Ky., Morganfield.—Mrs. Chas. Newman's residence.

Ky., Union.—Matson Rochelle's store; Union Bank; postoffice; loss about \$10,000.

Ky., Vanceburg.—Pugh Dry Goods Co.'s store, Masonic Temple and other structures; loss about \$30,000.

La., New Orleans.—Holly Grove Baptist Church at Holly Grove & Palmetto Sts. Address The Pastor.

Md., Baltimore.—Herbert H. Owens' residence at Liberty Rd. and Montgomery Ave., Howard Park; loss \$9000.

Md., Cambridge.—Antioch Southern Methodist Church near Town Point; loss \$3900; Rev. W. J. Twilley, Pastor.

Md., Raspeburg.—Two dwellings on Bellevue Ave. near Belair Rd., occupied by John French and Mrs. Emma Keller and owned by Richard T. Rutter, Baltimore Ave. near Belair Rd.

Miss., Scooba.—D. P. Stuart's stable, loss \$7000; Joe Cramer's warehouse and corn-house, loss \$3000.

Miss., Vicksburg.—Terminal Oil Mill Co.'s plant; loss \$30,000; main office, New Orleans, La.

Mo., Richmond.—J. H. Estes' store, loss \$50,000; Garison Jewelry Co.'s store, loss \$5000.

N. C., Asheville.—Dr. T. P. Cheesborough's residence on "Leroy Farm"; loss \$15,000.

N. C., Asheville.—Main building of Asheville Farm School, owned by Home Mission Board of Presbyterian Church, U. S. A.; loss \$40,000.

Okla., Leedy.—G. S. Webber's store and other buildings; total loss \$35,000.

Okla., Mangum.—Chicago, Rock Island & Pacific Ry.'s roundhouse; C. A. Morse, Ch. Engr., Chicago, Ill.

S. C., Alcolu.—R. J. Alderman's residence; loss \$8000.

S. C., Beaufort.—C. E. Danner Co.'s warehouse; loss \$25,000.

S. C., Dillon.—N. M. Blanton's store at Dillon Mill Village; loss \$5000.

S. C., Little Rock.—J. S. Thompson Co.'s store and residence of Mr. Thompson adjoining; loss \$20,000.

Tenn., Brownsville.—Mrs. W. I. Whittin's residence; loss \$4500.

Tenn., Chattanooga.—James May's residence in Alton Park.

Tenn., Greenfield.—Ward-Kent Co.'s warehouse; loss \$30,000; H. B. Ward, Mgr.

Tenn., Nashville.—Clemmons School at 12th Ave. and Linden St.; loss \$20,000. Address Board of Education.

Tenn., Pasquo, R. F. D. from Bellevue.—C. E. & E. N. Brown's planing and saw mill; loss \$3000.

Tenn., Rives.—Rives Grain Co.'s grain elevator; estimated loss \$6000.

Tenn., Shelbyville.—Jacobs Auto Co.'s garage; building owned by J. R. Burdett estate.

Tenn., Woodbury.—E. L. Harris' residence.

Tex., Athens.—W. A. Brown's residence in West Athens; loss \$3000.

Tex., Austin.—Swann Furniture & Carpet Co.'s warehouse; loss \$80,000.

Tex., Chapel Hill.—Jake Winfield's store and dwelling; Morris Lesser's residence; loss \$15,000.

Tex., Cleburne.—W. C. Ballew's store on Courthouse Sq., building owned by M. R. Pendell, Rockport, Ill.; loss \$8000 to \$10,000.

Tex., Conroe.—Conroe Gin, Ice, Light & Power Co.'s plant; estimated loss \$15,000.

Tex., Conroe.—Conroe Gin, Ice & Light Co.'s plant; estimated loss \$20,000.

Tex., Corsicana.—Will Goldman's store; loss \$10,000.

Tex., Cumby.—L. Strickland & Son's gin; loss \$4000.

Tex., Dallas.—J. B. Raltman's store at 2214 Elm St.

Tex., Ferris.—King Hotel, owned by W. D. Duff and J. H. Wilson; loss \$3500.

Tex., Floresville.—Isaac Dick's store; loss \$10,000.

Tex., Galveston.—Louis Kerpel's store at Postoffice and 21st Sts.; loss \$8000 to \$10,000.

Tex., Gonzales.—W. P. Waldrep & Co.'s store; loss about \$25,000.

Tex., Hawkins.—Jarvis Christian Institute's dormitory.

Tex., Houston.—Ben M. Levy's garage.

Tex., Italy.—E. H. Murphy's store; Van Clark Hotel; Interurban ticket office; total loss \$5500.

Tex., Hillsboro.—Building occupied by Orenbaum Bros. and City Tailor Shop; loss about \$15,000.

Tex., San Antonio.—Tabel Bros.' store; loss \$30,000.

Tex., Talpa.—K. D. Peterson's cotton gin.

Tex., Richmond.—W. C. O'Bryan's residence, owned by Mrs. Lizzie Culshaw; loss \$3000.

Tex., Shiro.—Shanks & Perkins' store.

Tex., Sulphur Springs.—R. A. Thornton Bldg., loss \$7500; Dr. J. B. Thomas' building, loss \$3500; City National Bank building; John D. Ray's store; Murray & Webster's store.

Va., Charlottesville.—Residence on Buck Island Farm, owned by J. B. Andrews of Charlottesville.

Va., Charlottesville.—Albemarle Hardware Co.'s store, building owned by Mayor Conway and P. H. Oberdorfer; Thos. S. Kellar's store, loss \$10,000; Norman Bldg.; total loss about \$100,000.

Va., Minerva.—Mrs. J. M. Bickers' residence.

Va., Richmond.—Richmond Forgings Corp.'s main building of plant near Acca; estimated loss \$8000; manufactures automobile parts.

Va., Richmond.—Albion Theater, owned by C. H. Hagan; loss \$8000; J. H. Goddin's residence, occupied by W. H. Best, loss \$3000.

W. Va., Baxter.—New Central Coal Co.'s store; loss \$20,000.

31 ft. by 33 ft.; frame; vulcanite asphalt shingle roof; gas and electric lighting.

Fla., Jacksonville.—W. H. Nichol will erect 2 two-story frame residences on Boulevard; cost \$5750.

Fla., Perry.—Judge Culpepper will erect residence on Green St.

Ga., Augusta.—S. A. Fortson is having plans prepared by G. Lloyd Preacher, Augusta, to remodel dwelling; contract to be let in early spring.

Ga., Monroe.—Morris & Morris, 525 Atlanta National Bank Bldg., Atlanta, Ga., are preparing plans for residence; frame; shingle roof; brick and tile mantels; electric wiring and fixtures; tile baths.

Ga., Monroe.—J. W. Butts is having plans prepared by Morris & Morris, 525 Atlanta National Bank Bldg., Atlanta, Ga., for residence; frame; bungalow style; hardwood floors; electric wiring and fixtures; tile baths, etc.

Ky., Hyden.—T. G. Lewis will rebuild hotel and residence reported burned at loss of \$15,000.

Ky., Williamsburg.—E. M. Gathoff contemplates erecting brick residence; cost \$12,000.

Ky., Williamsburg.—E. E. Woolf, Pres. of Cumberland College, is erecting residence; 2 stories; cost \$8000.

La., Shreveport.—A. J. Armstrong, Archt., 100 Majestic Bldg., Shreveport, opens bids about Jan. 10 to erect addition to residence, owner's name withheld; 3 rooms, small breakfast-room, bath, kitchen, etc.; metal-shingle roof; natural-gas heat; cost \$5000; electric lighting, \$350 to \$400; dumbwaiter; construction bids from two contractors only; lately noted. (See Machinery Wanted.)

Md., Baltimore.—Novak Realty Co., 744 N. Kenwood Ave., will erect 34 dwellings on Linwood Ave. near Madison St.; 13.10x70 ft.; construction under way on 5 dwellings on Madison St. near Linwood Ave., 13x68 ft.; both brick; tin roof; hot-air heat; gas and electric light; cost about \$80,000; Chas. Callis, Archt., 2055 Kennedy Ave., Baltimore.

Md., Baltimore.—Walter L. Westphal, 1700 N. Bond St., will erect 17 dwellings at 2100-32 W. Mulberry St.; 14 and 15 by 47 ft.; brick; tin roof; furnace heat; cost \$23,550; Wm. H. Hogg, Archt., 3200 E. Fairmount Ave., Baltimore.

Md., Govans.—O. S. Anderson has plans by J. E. Laferty, 11 E. Pleasant St., Baltimore, for alterations to interior and placing stucco on dwelling at Monroe Ave. near Bellone Ave.; plumbing and electric lighting; heating reserved; cost about \$10,000; G. Walter Tovey, Entwaw and McCulloch Sts., and Chas. L. Stockhausen, National Marine Bank Bldg., both of Baltimore, are bidding.

Md., Howard County.—W. Bladen Lowndes, Fidelity Trust Co., Baltimore, engaged Parker, Thomas & Rice, 1109 Union Trust Bldg., Baltimore, architects for improvements to recently acquired property, including plumbing and heating, electric-power plant and fixtures, etc. (Lately noted.)

Md., Pikesville.—R. W. Hare, Reisterstown, Md., will erect dwelling; bungalow, 7 rooms; slate roof.

N. C., Asheville.—Dr. T. P. Cheesborough will rebuild residence reported burned at loss of \$15,000.

S. C., Alcolu.—R. J. Alderman will rebuild dwelling reported burned at loss of \$8000.

S. C., Charleston.—Daisy S. Wilson will erect dwelling at Tradd St. and Rutledge Ave.; cost \$3000.

S. C., Georgetown.—Dr. M. P. Mooror will rebuild dwelling and infirmary; 20 rooms; ordinary construction; tin roof; cost (without mechanical equipment) \$15,000; hot-water heat, \$1500; electric lighting; architect not selected; date of opening bids not determined; lately reported burned. (See Machinery Wanted.)

Tenn., Memphis.—Mrs. S. B. Anderson will erect residence and garage; 2 stories; stucco finish; cost \$15,000; bids opened; G. M. Shaw & Co., Archts., Memphis.

Tex., Austin.—R. H. Kirby will erect addition to 3-story dwelling at 1600 Congress Ave.; brick and stone; cost \$3300.

Tex., Houston.—W. S. Ennis will erect 8-room residence on Oxford St.; cost \$3500.

Tex., Marshall.—Dr. Rogers Cocke has plans by John Carpenter, Box 324, Marshall, for residence at 306 W. Grand Ave.; 48x70 ft.; ordinary construction; terra-cotta tile roofing; bids opened Jan. 1; construction to begin Jan. 15; cost \$6000. Address proposals to architect.

Tex., San Angelo.—W. T. Cawley will erect residence to replace structure lately noted burned; cost \$5000.

Tex., San Antonio.—Paul W. Jones will erect store and dwelling. (See Stores.)

GOVERNMENT AND STATE

Ga., Atlanta.—Postoffice.—Bids received until Dec. 31 by A. O. Bialock, custodian, P. O. Bldg., to repair entrance doors to postoffice; cost \$3500.

Ky., Middlesboro.—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Architect, Washington, D. C., opened bids to erect postoffice; Wm. Everly, Indianapolis, Ind., is lowest bidder at \$68,106, \$66,420, \$64,873 and \$63,471, respectively, for construction as follows: Stone faced with sandstone, stone faced with Bowling Green limestone, brick faced with sandstone, brick faced with Bowling Green limestone; and John G. Unkefer & Co., Minerva, O., are lowest bidders at \$62,840 and \$62,000, respectively, for stone-faced building using light-colored limestone except where granite is required, and brick faced with limestone; 2 stories and basement; 5000 sq. ft. ground area; stone facing; composition roof. (Lately noted.)

Miss., Canton.—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., opened bids to erect postoffice; Mayben & Freuchtel, Gadsden, Ala., are lowest bidders at \$33,467 for limestone construction, and Algernon Blair, Montgomery, Ala., is lowest bidder at \$40,000 for sandstone construction; 2 stories and basement; 3600 sq. ft. ground area; stone and stucco facing. (Lately noted.)

Mo., St. Louis.—Custom-house.—Treasury Dept., office of O. Wenderoth, Supervising Archt., Washington, D. C.—Bids until Jan. 13 to remodel, etc. (except mechanical equipment), U. S. custom-house; drawings and specifications obtainable from custodian at site, or at this office, at discretion of Supervising architect. (Lately noted.)

HOTELS

Ga., Atlanta.—Ansley Hotel Investment Co. increased capital stock from \$300,000 to \$300,000; will probably begin in spring construction of proposed building.

Ky., Hyden.—T. G. Lewis will rebuild hotel and residence reported burned at loss of \$15,000.

MISCELLANEOUS

Ga., Grovetown.—Stables.—J. L. Dodge, temporarily at The Genesta, Augusta, Ga., will rebuild stables lately noted burned; loss about \$100,000.

Md., Baltimore.—Loft Building.—Harry E. Kurr, 1301-3 Fidelity Bldg., Baltimore, represents clients who contemplate erecting loft building at Lexington and Liberty Sts.

Md., Baltimore.—Clubhouse.—Corinthian Boat Club is having plans prepared by John Owens, 7 Clay St., Baltimore, for clubhouse to be removed from Stone House Cove to Fort McHenry Park, and be remodeled; 33x132 ft.; frame; slate roof; gas and electric lighting; cost \$5000; separate contract for heating; plans ready about Jan. 4. (Previously noted.)

Md., Baltimore.—Clubhouse.—Ariel Rowing Club and Maryland and Annapolis Boat Clubs are having plans prepared by Chas. R. LeLand, 1606 N. Calvert St., for clubhouses to be removed from Ferry Bar to Fort McHenry Park and remodeled at cost of \$4000 each; 5x100, 75x87 and 75x100 ft., respectively; frame; shingle roof; gas and electric lighting; separate contract for heating; plans ready about Jan. 4. (Lately noted.)

N. C., Kannapolis.—Home.—J. W. Cannon, Concord, N. C., will erect George Washington Inn as home for young men working in mills; will be equipped with steam heat, sewerage system, water, lights, etc.

S. C., Georgetown.—Infirmary, etc.—Dr. M. P. Mooror will rebuild infirmary and dwelling lately reported burned. (See Dwellings.)

Tenn., Memphis.—Clubhouse.—Colonial Country Club opened bids to erect clubhouse; D. M. Crawford Co., Memphis, is lowest bidder at \$22,800; John Galsford, Archt., Memphis. (Lately noted.)

Tex., Waco.—Market.—August A. Busch & Co., St. Louis, will erect market at Austin and 8th Sts.

SCHOOLS

Fla., Tampa.—Oak Park Special Sub-school Tax Dist. voted \$5000 bonds to purchase site and erect school; Marshall Moore, Secy. County Board of Public Instruction. (Lately noted.)

Ky., Louisville.—Saml. D. Jones, business director of Board of Education, Administration Bldg., 8th and Chestnut Sts., receives bids until Jan. 14 for additions and altera-

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ga., Atlanta.—L. G. Neal will erect apartment-house at Myrtle St. and North Ave.; 2 stories; brick veneer; 8 suites; cost \$30,000; day labor.

Ga., Atlanta.—Miss Hattie Smith has plans by Morris & Morris, 525 Atlanta National Bank Bldg., Atlanta, for 2-story brick and frame flats; architects are receiving bids.

Mo., St. Louis.—Chapline Construction Co. will erect three 2-story tenement-houses at 4057-67 McRae St.; cost \$16,500; construction by owner.

Mo., St. Louis.—John O'Shaughnessy will erect 4-room flat building; cost \$4000.

Mo., St. Louis.—M. Hattan will erect store and flat building. (See Stores.)

Tex., Dallas.—H. J. Pickney and T. H. Campbell, Beckley and Jefferson Aves., Oak Cliff, Dallas, open bids about Jan. 10 to erect bachelor apartments; 70x156 ft.; brick walls; frame floors and partitions; tar and gravel roof; gas heating for present, steam heat in future; electric lighting; cost \$35,000; Parker & Rittenberry, Archts., 1309½ Main St., Dallas. Address Mr. Pickney. (Lately noted.)

Va., Norfolk.—Royal Realty Co. will let contract to Jesse Johnson, Law Bldg., to erect apartment on Tazewell St.; 45x100 ft.; ordinary construction; gravel roof; steam direct heat; electric lights; cement sidewalks; cost \$15,000; construction to begin about Jan. 15; James W. Lee, Archt., Norfolk. Address contractor. (Lately noted.)

Va., Richmond.—Morton G. Thalheimer, First National Bank Bldg., is having plans prepared by Carneal & Johnston, Richmond, for apartment-house at 5th and Grace Sts.; architects wire Manufacturers Record: "Structure 25x150 ft.; 10 stories; steel construction; concrete floors; brick walls; cost about \$150,000; plans not yet complete."

ASSOCIATION AND FRATERNAL

Tenn., Nashville.—Knights of Columbus have plans by Harry J. Frahn, Nashville, for lodge building; 3 stories, basement and roof garden; exterior finished in Italian Renaissance; terra-cotta, brick, cut stone and granite construction; interior of reinforced concrete and hollow tile; swimming pool; roof floored with promenade tile and fitted with pergolas, etc. (Previously noted.)

Tenn., Union City.—Union City Lodge No. 673, B. P. O. E., will erect building; has site 25x100 ft.

Tex., Fort Worth.—Directors of Masonic Orphans' Home are having plans prepared for school. (See Schools.)

Va., Richmond.—Richmond Lodge, B. P. O. E., contemplates erecting building.

BANK AND OFFICE

Tex., Post.—First National Bank will erect building at Main and C Sts.; brick.

CHURCHES

Ark., Glenwood.—Rev. Father McGrath of Prescott, Ark., and F. B. Murphy, Chasman of Catholic Building Co., plan to erect Catholic church.

Fla., Tampa.—Bethel Baptist Church, Rev. R. H. Pittman, pastor, will erect \$30,000 building.

Md., Arlington.—Arlington First Presbyterian Church, Rev. Gustav A. Bricleb, pastor, 5210 Palmer Ave., has plans by Clyde Friz, 1523 Munsey Bldg., Baltimore, for building at Belvidere and Park Heights Aves.; seating capacity about 500; 42x65 ft.; wing, 5x35 ft., for Sunday-school; stone; slate roof; steam heat; electric lights; gas emergency equipment; cost about \$20,000; plans ready about Jan. 15. (Lately noted.)

Md., Hamilton.—Hamilton Presbyterian Church has plans by Clyde Friz, 1523 Munsey Bldg., Baltimore, for building at Harford Rd. and Evergreen Ave.; 45x85 ft.; seating capacity of main auditorium 400; Sunday-school 500; stone; slate roof; steam heat; electric lighting; gas emergency equipment; cost about \$20,000; plans ready about Jan. 20.

Tex., Dallas.—Trinity Presbyterian Church, Rev. Glen L. Sneed, pastor, 108 Cumberland St., is having plans prepared by C. D. Hill & Co., Sumpter Bldg., Dallas, for building; cost \$25,000; W. P. Maloney, Chasman, Building Com., 710 Main St.; further information from architects. (Lately noted.)

CITY AND COUNTY

Ark., Camden.—Hospital.—Ouachita county, E. B. McCall, Judge, appointed B. C. Powell, N. W. Bragg and Rev. W. M. Wright to select site for proposed county hospital.

Fla., Bartow.—City Hall.—G. O. Denham, City Clerk, receives bids until Jan. 31 to erect city hall; 40x60 ft.; 3 stories; ordinary masonry construction; brick; stone trimmings; tile roof with tin or tar and gravel deck; electric heat from city plant; electric lights; cost \$12,000; plans and specifications at office of Mark & Shefall, Archts., Suite 210 Clark Bldg., Jacksonville. (Lately noted.)

Ga., Atlanta.—Fair.—Chas. A. Kauffman, designing engineer of City Constr. Dept., prepared tentative plans for development of Lakewood Park, containing 380 acres, for Southeastern Fair; plans include erection of \$125,000 aquarium building; 2 stone bridges, grottoes, 2 Roman coliseum type buildings at entrance, etc. (Fulton county lately noted to have appropriated \$75,000 for this purpose. \$75,000 to be appropriated by city and similar amount to be raised by Chamber of Commerce.)

Tex., Corsicana.—Hospital.—Navarro County Commrs. appropriated \$10,000 to remodel building for hospital.

Tex., Gainesville.—Jail.—Commrs. Court deferred erection of jail; R. V. Bell, County Judge. (Lately noted.)

DWELLINGS

Ala., Montgomery.—Thos. H. Betty contemplates rebuilding dwelling. (Lately reported burned.)

D. C., Washington.—Kennedy Bros. will erect dwellings on Irving St.; 24x35 ft.; ordinary construction; slag roof; hot-water heat; gas and electric lighting; A. H. Sonnemann, Archt., 1324 H St. N. W., Washington; construction by owner. (Lately noted to erect 6 dwellings to cost \$35,000.)

Fla., Pensacola.—M. N. Bennette has plans by Wm. Alfred, Pensacola, for dwelling;

tions to building on 6th St. between Walnut and Chestnut Sts., formerly used as medical school; separate bids for heating and ventilating plant; plans and specifications at office of J. Earl Henry, Archt. and Engr., Louisville.

N. C., Asheville.—Asheville Farm School, owned by Home Mission Board of Presbyterian Church, U. S. A., will rebuild main structure reported burned at loss of \$40,000.

N. C., Statesville.—School Board is having plans prepared by Wheeler & Stern, Charlotte, N. C., for school; 10 rooms; cost \$20,000. (Lately noted.)

S. C., Columbia.—City contemplates issuing \$200,000 bonds to erect high school; L. A. Griffith, Mayor.

Tex., Fort Worth.—Directors of Masonic Orphans' Home are having plans prepared by Hubbell & Greene, Dallas, for school; 148x142 ft.; cost about \$65,000.

Tex., Houston.—Trustees of School Dist. No. 24 receive bids through L. L. Pugh, County School Supt., until Jan. 2 to erect 1-story-and-basement school; plans and specifications at office of Lane & Dowdy, architects, Houston.

STORES

Ala., Birmingham.—J. W. Ager is reported considering erection of building on 3d Ave. between 18th and 19th Sts.

Ga., Atlanta.—Campbell-Brownlee Furniture Co. will erect store building at 38 Edgewood Ave.; 35x80 ft.; probably 3 stories and basement; cost \$7000; plans not drawn; expect to complete building by Aug. 15; address F. R. Campbell, 392 Edgewood Ave. (Lately noted.)

Ga., Lyerly.—Archle Hill will erect 2-story brick building.

Ky., Williamsburg.—J. E. Terry will erect 2-story brick business building; cost \$4000 to \$5000.

Md., Baltimore.—Morton C. Stout, 26 E. Baltimore St., has plans by Baldwin & Pennington, 601-7 Professional Bldg., Baltimore, for building at 315 N. Charles St., to be occupied by Jenkins & Jenkins, 338 N. Charles St.; 25x57 ft.; 3 stories; brick and marble; slag roof; elevator; cost about \$25,000; electric lighting, plumbing and heating reserved; bidders are: Morrow Bros., Fidelity Bldg.; Consolidated Engineering Co., Calvert Bldg.; Hy. Smith & Sons Co., German and Light Sts.; H. H. McLellan, Fidelity Bldg.; Geo. Bunnecke & Sons, 305 St. Paul St.; G. Walter Tovell, Eutaw and McCulloch Sts.; Jno. Hiltz & Sons, 3 Clay St.; Edward Watters & Co., 509 N. Charles St.; Hy. S. Rippel, 7 Clay St.; J. Hy. Miller, Eutaw and Franklin Sts.; David M. Andrew Co., Mt. Vernon Ave. and 26th St., all of Baltimore. (Lately noted.)

Mo., St. Louis.—M. Hattan will erect store and flat building at Morgan Ford Rd. and Taft Ave.

Okla., Leedy.—G. S. Webber will erect brick structure to replace structure noted burned.

Okla., Okmulgee.—Barclay Morgan and Donk Aydelott, Henryetta, Okla., will erect opera-house and business building. (See Theaters.)

Okla., Oklahoma City.—Oscar Lee is reported to expend about \$5000 to improve building at Main St. and Broadway; lower first floor to street level, install plate-glass front, etc.

Okla., Sapulpa.—T. B. Bliss will erect building at Hobson and Water Sts.; 3 stories; brick; frontage 50 ft.

Tenn., Nashville.—N. B. Shyer opens bids Jan. 1 to erect building for stores and offices; 57x42 ft.; ordinary construction; Barrett roof; cost \$10,000; steam heat, \$650; Marr & Holman, Archts., Nashville. (Lately noted.)

Tex., Brownwood.—J. R. Looney is rebuilding 2 business buildings lately burned.

Tex., Dallas.—W. A. Fraser will erect 3-story brick business building on Wood St. west of Ervay St., also remodel building on Ervay St. south of Wood St.

Tex., Beaumont.—Gilbert Bldg.; loss \$40,000.

Tex., Houston.—Mrs. Pauline Wolf will erect building to replace structure lately noted burned; 3 stories; fireproof; Finger & Bailey, Archts., Houston; occupied by Krupp & Tully; cost \$60,000.

Tex., San Antonio.—Paul W. Jones will erect store and dwelling on Bina St.; cost \$3000.

Va., Richmond.—Higgins Land Corporation is having plans prepared by Neff & Thompson, Norfolk, for 7 double stores on Granby St. between Bute St. and York Pl.; 1 story; foundation for 2 additional stories; investment \$200,000.

Va., Winchester.—Herman H. Hable of Winchester and Fred H. Hable of Washington, D. C., will erect business block with theater on second floor.

THEATERS

Okla., Okmulgee.—Barclay Morgan and Donk Aydelott, Henryetta, Okla., will erect opera-house and business building lately noted; 69.6x102.6 ft.; brick, cement and stone; composition roof; steam heat; gas and electric light; concrete sidewalk; cost \$30,000; Carl Boller, Archt., Gayety Theater Bldg., Kansas City, Mo.; construction in spring; address Mr. Morgan. (See Machinery Wanted.)

BUILDING CONTRACTS AWARDED

BANK AND OFFICE

Ark., Glenwood.—Watkins & Co. let contract to erect store and office building. (See Stores.)

N. C., Winston-Salem.—E. W. O'Hanlon let contract to erect store and office building. (See Stores.)

S. C., Spartanburg.—Hogson Bros., 7 E. 44th St., New York, general contractors to erect First National Bank building, sublet contract for erection only to Willard, Boggs & Co., Spartanburg, and will probably let contracts for other portions of work; 78 ft. 5 in. by 24 ft. 6 in.; 1 story and mezzanine; ordinary construction; asbestos roof; vapor vacuum steam heat; electric lights; cost \$27,500 (without mechanical equipment); O. V. Vatel, Archt., 15 E. 40th St., New York. (Lately noted.)

CHURCHES

Tex., Bay City.—Baptist church let contract to erect buildings; pressed brick; cost \$13,000; J. E. Large, Archt., Bay City. (Lately noted.)

La., Monroe.—Congregation B'Nai Israel, Sam L. Kaplan, Chmn. Bldg., Com., let contract to Frank Masling, Monroe, to erect synagogue at Jackson and Oak Sts.; 52x142 ft.; mill construction; tile and composition roof; air-heating and ventilating plant to cost \$3800; electric lights; also let contract to Home Heating & Plumbing Co., Monroe, for heating and plumbing; cost \$41,000; Stevens & Nelson Co., Archts., Liverpool & London & Globe Bldg., New Orleans. (Lately noted.)

CITY AND COUNTY

Fla., Lake Worth.—Town Hall.—Town Council let contract to erect town hall; cost \$3682.

Tex., Galveston.—City Hall, etc.—City let contract to Gross Construction Co., Waco, Tex., to erect city hall and auditorium; 4 stories and basement; 130x275 ft.; fireproof; tile and gravel roof; cost \$225,000; C. D. Hill & Co., Archts., Dallas; separate contracts for heating and lighting. (Lately noted.)

DWELLINGS

Fla., Perry.—Mrs. Kansas Holt, Newberry, Fla., let contract to Mr. Phillips to erect 5 cottages.

Fla., Tampa.—Wm. O. Stubbs let contract to Logan Bros., Tampa, to erect residence on Newport Ave.; 1 story; cost \$3500.

Ga., Augusta.—Mrs. Julia B. Richards let contract through G. Lloyd Preacher, Archt., Augusta, to R. H. Mobley, Augusta, at \$4199 to erect dwelling; plumbing, electric fixtures, hardware, mantels, etc., to be purchased later.

S. C., Camden.—John McLain let contract to J. H. Moore, Camden, to erect residence at DeKalb and Church Sts.; 8 rooms; bungalow style; cost about \$2500.

Tenn., Columbia.—Mrs. Louisa Richardson of near Fayetteville, Tenn., is reported to have let contract to Richardson Lumber Co., Columbia, to erect 7-room residence.

Tenn., Nashville.—Vanderbilt University let contract to remodel dwelling. (See Schools.)

Tex., Brownsville.—Jesse Denett, First National Bank, let contract to G. Saenz, Brownsville, to erect 2 residences at Levee and 4th Sts. and St. Charles and 6th Sts.; frame; 36x56 ft.; ordinary fireproof construction; fireproof roofing; construction begun; cost \$3800. (Lately noted.)

Tex., Crosbyton.—Sep Smith let contract through M. L. Waller & Co., Archts., Fort Worth and Abilene, Tex., to A. M. Hensely, Lubbock, Tex., to erect dwelling; brick; cost \$4800.

Va., Winchester.—Herman H. Hable of Winchester and Fred H. Hable of Washington, D. C., will erect business block and theater.

WAREHOUSES

Md., Baltimore.—Canton Co., Commerce and Water Sts., is preparing plans to erect building in Canton for client; brick.

N. C., Acme.—Acme Warehouse Co. ineptd. with \$25,000 capital stock by J. G. McCormick, Wilmington, N. C., and G. Herbert Smith, Acme.

Tex., Austin.—Chamber of Commerce and Retail Merchants' Assn. are reported promoting erection of cotton warehouse.

HOTELS

Fla., Buena Vista.—Mr. Tygert let contract to John Brown, Fort Myers, Fla., to erect hotel.

W. Va., Wheeling.—Rodgers estate let contract to Gates Building Co., Wheeling, to erect hotel; 75 rooms; concrete and fireproof; heating and lighting not in contract; electric elevator; cost \$25,000; Edw. B. Franzheim, Archt., Wheeling. (Lately noted.)

MISCELLANEOUS

Fla., Bradentown.—Livery Barn.—Dr. D. M. Leonard and H. V. Coarsey are reported to have let contract to McClelland Steadman to make and lay concrete blocks for livery barn; concrete construction; 50x100 ft.

Fla., Valrico.—Clubhouse.—Valrico Grapefruit Growers' Assn. has plans by and let contract to Kendall Construction Co., Tampa, to erect clubhouse; 60x100 ft.; brick and concrete; composition roof; steam heat; cost \$10,000; also plans bathing pool, bath-houses, etc.

Ga., Augusta.—Hospital.—G. Lloyd Preacher, Archt., Augusta, let following contracts for University Hospital buildings: Completing laundry building and constructing morgue, McKenzie Construction Co., Augusta, \$6625; Kompolite floors in kitchen, General Kompolite Co., New York, \$1172; metal screens, Watson Mfg. Co., Jamestown, N. Y., \$4474; lighting fixtures for all buildings, National X-Ray Reflector Co., Chicago, \$3801; refrigerators, etc., McCray Refrigerator Co., Kendallville, Ind., \$4457; refrigerating machinery, Automatic Refrigerating Co., Hartford, Conn., \$7564; laundry machinery, American Laundry Machine Co., \$2881; flat work ironer, Hulse Steam Laundry, Augusta, \$550; kitchen equipment, Gas Light Co., Augusta, \$3000.

Ky., Louisville.—Barn.—Bourbon Stock Yard Co. let contract to Blome-Stineck Co. to erect sheep barn to cover 4 blocks; 2 stories; concrete; gravel roof; electric lighting; cost \$130,000; D. X. Murphy & Bros., Archts., Louisville. (Lately noted.)

RAILWAY STATIONS, SHEDS, ETC.

La., New Orleans.—Transmississippi Terminal R. R. Co., E. F. Kearney, Prest., will probably begin construction of proposed passenger and freight stations and warehouse by Feb. 1; one contract let, others let soon; passenger and freight stations reported to cost \$250,000 each.

SCHOOLS

Ga., Guyton.—Atlantic Institute Trustees let contract through G. Lloyd Preacher, architect, Augusta, to J. J. Knopf, Fairfax, S. C., to erect 2-story brick school; cost \$10,175; plumbing, heating and electric work let about Jan. 15.

La., Nibletts Bluff (not a P. O.).—Parish School Board let contract at \$2650 to Geo. D. Price, Lake Charles, La., to erect school; 1 story; 2 rooms; A. H. Humphrey, Archt., Bloch Bldg., Lake Charles. (Lately noted.)

Miss., Perkinston.—Trustees of Harrison County Agricultural High School, Gulfport, Miss., let contract at \$12,600 to Burkes Bros. Construction Co., Hattiesburg, Miss., to erect lately-noted dormitory; contract for plumbing not yet let; sold \$17,000 bonds; plans by Wm. Drago, New Orleans, call for 2-story brick structure; 40x120 ft.; ordinary construction; slate roof; low-pressure steam heat; subcontracts include painting, electric wiring, sheet metal and roofing. Address contractor. (See Machinery Wanted.)

Tenn., Columbia.—City let contract to W. T. Willerford, Nashville, at \$58,300 to erect city and county high school; 191x200 ft.; ordinary construction; composition roof; steam heat; Hart & Gardner, Archts., Nashville. (Lately noted.)

Tenn., Nashville.—Vanderbilt University let contract to Patrick & Co., Nashville, to remodel residence; cost \$12,000; Hart & Gardner, Archts., Nashville. (Lately noted.)

STORES

Ark., Glenwood.—Watkins & Co. let contract to Morris Construction Co., Glenwood, to erect 2-story brick store and office building; contract for brick let to Glenwood Brick & Tile Co.

Ga., Eastman.—Mrs. H. R. Cooke let contract to J. H. Hargrove & Son, Eastman, to erect 3 stores; 25x100 ft.; ordinary construction; tin roof; electric lighting; cost about \$8000; S. J. Hargrove, Archt. (Lately noted.)

Ky., Williamsburg.—Joseph Lovett let contract to erect double-room store building; brick; cost \$5000.

Md., Baltimore.—Thos. H. Hooper, 310 E. Baltimore St., let contract to R. Glen Hopkins Co., 2017 W. North Ave., Baltimore, to alter dwelling at 8 W. North Ave. for store; brick; slag roof; cost \$4000.

N. C., Winston-Salem.—E. W. O'Hanlon let contract to Travers-Wood Co., Richmond, Va., and Charlotte, N. C., to erect store and office building at 4th and Liberty Sts.; 5 stories; 35x39 ft.; fireproof; exterior of red brick; first floor of terra-cotta furnished by Atlantic Terra-Cotta Co., New York; granite trimmings; steel frame; gravel and tar roof; steam heat; electric lights; vault lights over sidewalk; electric passenger elevator; cost \$80,000; W. C. Northrup, Archt., Winston-Salem; construction to begin Jan. 1. (Lately noted.)

Tex., Abilene.—Mrs. Minnie H. Oldham let contract on percentage basis to Holderness Construction Co., Stamford, Tex., to erect building; 50x125 ft.; concrete frame; 2 stories; designed for 4 stories and may build 3 at present; cost not to exceed \$30,000; contractor, architect and owner will jointly purchase material; M. L. Waller & Co., Archts., Fort Worth and Abilene. (Lately noted.)

THEATERS

Mo., St. Louis.—M. Nash will expend \$18,000 (cost without mechanical equipment) to erect moving-picture theater; 67x135 ft.; fireproof; concrete on Hy Rib with gravel roof; steam heat to cost \$2200; electric lighting, \$1000; Kennerly & Stegamer, Archts., 504 Benoit Bldg., St. Louis; all subcontracts let; general contract (lately noted) let to W. L. Denham, 1395 Shawmut Pl., St. Louis.

WAREHOUSES

La., New Orleans.—Transmississippi Terminal R. R. Co. let one contract in connection with erection of passenger and freight depots and warehouses. (See Railway Stations.)

La., New Orleans.—Board of Port Commrs., Ernest M. Loeb, Prest., 200 New Orleans Court Bldg., modified specifications, eliminating sorting sheds, etc., and let contract at \$994,646 to Jefferson Construction Co., New Orleans, to construct compress No. 1, power-house, garage, office, warehouses J. K. G. and H., and appurtenances on east bank of Mississippi River between Napoleon Ave. and Soniat St.; combined ground area about 700,000 sq. ft.; excepting office and garage, buildings to be 1 story, 36 ft. high; reinforced concrete construction; creosoted pile foundation; Ford, Bacon & Davis, Engrs., 921 Canal St., New Orleans. (Lately noted.)

Va., Richmond.—Spence-Nunnamaker Co. let contract to Jas. Fox & Son, Richmond, to erect warehouse; 50x100 ft.; 3 stories and cellar; mill construction; tar and gravel roof; steam heat; electric lighting; cost \$25,000; elevator, \$1200; A. F. Hunt, Archt., 1107 E. Main St., Richmond. (Lately noted.)

New Automobile Tire Device.

A new automobile tire and rim device to use in place of pneumatic tires, which is said to be capable of traveling from 20,000 to 40,000 miles without other general wear than that of the solid rubber tire surrounding it, is being developed by J. C. Menoher, 1021 Chislett street, Pittsburgh. The device, which is fitted to an ordinary automobile wheel, consists of a special metal tire containing a magazine of spiral springs attached radially, on which rests a solid rubber tire. The tire is said to be applicable to any sort of automobile, truck or wheel which depends upon rubber tread for resiliency. Mr. Menoher desires to sell an interest in this patent.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Guntersville.—Concerning report that it would build a line from Guntersville to Hobbs Island, the Nashville, Chattanooga & St. Louis Ry. Co. says that preliminary surveys have been made in the vicinity, but construction has not been authorized and there is little likelihood of its being done soon. Hunter McDonald, Nashville, Tenn., is Ch. Engr.

Ark., Truman.—Cairo, Truman & Southern R. R. contemplates building an extension from Weona southward to Earle, Ark., 20 mi. L. M. Preston is Gen. Mgr., Liggett Bldg., St. Louis.

Fla., Bradentown.—W. B. Wilson, V.-P. East & West Coast Ry., says about 36 mi. are completed on its 53-mi. line Bradentown to Arcadia, Fla. Expected to finish all early in 1915. Offices at Bradentown. Allen W. Jones is Prest.

Fla., Miami.—J. A. Moore, Hotel Halcyon, Miami, who proposes to build a railroad from Palm Beach to Lake Okeechobee, about 40 mi., says that details will be given later; definite statement of plan cannot now be given.

Fla., Miami.—J. A. Moore, Hotel Halcyon, Miami, who proposes to build a railroad from Palm Beach to Lake Okeechobee, about 40 mi., says that details will be given later; definite statement of plan cannot now be given.

Ky., Manchester.—Another report concerning the railroad contemplated by Edwin W. Gearhart and J. A. Helm of Scranton, Pa., and C. B. Little and Cecil Donnelly of Brooksville, Pa., is that it will run from East Bernstadt, on the Louisville & Nashville R. R., eastward to Manchester, Ky., 26 mi., and will develop timber and coal lands in Clay county. A survey made last year will be revised and construction begin soon.

Mr. Gearhart, whose address is Traders' Bank Bldg., Scranton, refers to the plan as being to build from Manchester southward to Barbourville, and also says that the matter is only of the most preliminary nature. No railroad company has been incorporated nor has there been an engineer engaged. The plan is but in embryo, and may likely remain so.

Mo., Rolla.—Rolla, Ozark & Southern R. R. Co., building from Rolla southward to Anutt, Mo., 18 mi., has graded 9 mi. of line and laid 1 mi. of track. J. E. Walker is Gen. Mgr. at Rolla.

Tenn., Fayetteville.—Tennessee & Alabama Ry. Co. is reported surveying for its proposed line from Fayetteville, Tenn., to Huntsville, Ala., 34 mi. J. E. Hurd, Fayetteville, is chief engineer.

Tenn., Knoxville.—Mrs. Mark K. Bell of Knoxville is reported representing Eastern capitalists and will apply for right of way to build an interurban electric railway from Knoxville to Bristol and Newport, Tenn., about 120 mi. S. E. Hodges of Knoxville is attorney.

Tex., Galveston.—Concerning the contemplated raise of grade near Galveston, Tex., by the Gulf, Colorado & Santa Fe Ry., the company says that the work will be done by its maintenance forces. F. Merritt, Galveston, is Chief Engr.

Tex., Nacogdoches.—Nacogdoches & South-eastern Ry. has completed grade on a 6 mi. extension southeast from Lacerda, Tex. H. W. Whitely is Gen. Mgr. at Nacogdoches.

W. Va., Charleston.—Horse Creek Land & Mining Co. is reported to have let contract to Board & Duffield of Charleston to build the first 3 mi. of its railroad on Peter Cave Fork in Lincoln county. W. Va., construction to begin immediately. L. E. Poteet, Quarrier St. Bldg., Charleston, is Gen. Mgr.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Air Compressors.—Office of Lighthouse Inspector, Baltimore, Md.—Bids until Jan. 4 to furnish two direct-connected or geared oil engine-driven air compressors and accessories; blank proposals particulars obtainable from above office.

Air Compressors.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Prices on second-hand high-pressure air compressor, 10x10x10 or 12x12x12; also low-pressure air compressor, 8x14x8.

Aluminum Ware.—J. H. Burton, National Vaccine and Antitoxin Institute, Washington, D. C.—Addresses of manufacturers of miscellaneous aluminum wares.

Automobile Trucks, etc.—W. Jackson Turner, Front Royal, Va.—New or slightly-used equipment of auto-trucks and busses for line to operate between Front Royal and Rappahannock county points.

Builders' Hardware Sundries.—D. T. Devienne, care Edison Dictating Machine Co., 45 St. Alexander St., Montreal, Canada. Correspondence with manufacturers of builders' hardware sundries; view to representation.

Building Material.—Barclay Morgan, Henryetta, Okla.—Will want prices on building materials for \$30,000 opera-house and business building at Okmulgee, Okla.

Building Materials.—Dr. M. P. Moor, Georgetown, S. C.—Prices on building materials for \$15,000 dwelling and infirmary.

Brick.—Carolina Electric Co., H. C. McNair, Prest., Maxton, N. C.—Prices on brick for electric-light plant, Whiteville, N. C.

Calendars.—Burling Pencil Co., Jane Lew, W. Va.—Addresses of manufacturers of and dealers in calendars.

Canning Machinery.—Portsmouth Cotton Oil Refining Corp., Portsmouth, Va.—Names and addresses of manufacturers of machinery for canning oil.

Castings Manufacturers.—R. L. Bryan, care Zephyrhills Colony Co., Zephyrhills, Fla.—Correspondence with foundries mak-

ing specialty of steel and malleable castings; view to placing order for making of patented article on order of piers.

Cement.—G. Mossa, 46, Rua S. Jose, Rio de Janeiro, Brazil.—Correspondence with manufacturers of cement; view to representation.

Cement.—Office of F. H. Duchay, Supt. of Prisons, Dept. of Justice, Washington, D. C.—Bids until Jan. 23 to furnish and deliver 4000 bbls. Portland cement for use in construction work at U. S. penitentiary at Leavenworth, Kans., in accordance with specifications, copies of which are obtainable at this office.

Cotton Goods and Yarns.—Micheli & Co., 463 Uruguay, Buenos Aires, Argentina. Interested to correspond with manufacturers of cotton goods and cotton yarns; view to representation.

Curbing, etc.—Board of Public Works, D. B. McKay, Chrmn., Tampa, Fla.—Bids until Jan. 5 to build 50,000 lin. ft. concrete curb and gutter; also to furnish 50,000 lin. ft. granite curbing, f. o. b. Tampa; specifications obtainable from City Engr.; Allen Thomas, Clerk.

Dredging.—Commrs. New River Drainage Dist. of Ascension Parish, Leon Picard, Prest., Gonzales, La.—Bids until Feb. 4 to construct drainage canals; about 2,000,000 cu. yds. excavation; bidders to have right to submit bids for purchase of series of bonds amounting to \$175,000; specifications and proposal forms obtainable from C. C. Weber, Secy. of Commrs. at Donaldsonville.

Dredge Bucket.—Big Salkebachle Cypress Co., Varnville, S. C.—Orange peel dipper; ¼ or 1 yd.

Dumb-waiters.—A. J. Armstrong, 100 Majestic Bldg., Shreveport, La.—Prices on dumb-waiters.

Electrical Machinery.—Carolina Electric Co., H. C. McNair, Prest., Maxton, N. C.—Three-phase, 2300-volt, circuit breaker, 40 amperes; disconnecting switches, etc., for installation Whiteville, N. C.

Elevator.—Treasury Dept., Office of O. Wenderoth, Supervising Archt., Washington, D. C.—Bids until Jan. 22 to install, complete, electric freight elevator in U. S. appraiser's stores at Milwaukee, Wis., in accordance with drawings and specifications, copies of which are obtainable at this office at discretion of Supervising Archt.

Engine.—Carolina Electric Co., H. C. McNair, Prest., Maxton, N. C.—Prices on 100 H. P. Corliss engine; new or second-hand.

Engine.—Mayor, Boyce, Va.—Corliss or other high-speed engine for generating electricity; 75 to 100 H. P.; first-class order; low price.

Engine (Gas).—Bradley Lead & Zinc Co., S. M. Bradley, Prest., Joplin, Mo.—Prices on gas engine.

Engineering.—See Manufactures, Saml. Smith & Sons, Ltd.

Flour, etc.—Herbert J. Camacho, 137 Tower St., Kingston, Jamaica, B. W. I.—Correspondence with manufacturers of "All salable lines," especially including flour; view to representation.

Feed Water Heater.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Prices on second-hand feed water heater, coil type for 60 H. P. to 100 H. P. boiler.

Grading.—Baltimore (Md.) Board of Awards.—Bids until Jan. 6 to grade Woodberry Ave. from Railroad Ave. to Hooper Ave., contract No. 137; about 5000 cu. yds.; specifications obtainable on application to

Mail Chute.—Treasury Dept., Office of O. Wenderoth, Supervising Archt., Washington, D. C.—Bids Jan. 21 to install mail chute in U. S. postoffice, custom-house and court-house at Cleveland, O., in accordance with specifications, copies of which are obtainable from custodian at site, or at this office, at discretion of Supervising Archt.

Marble.—Office of F. H. Duchay, Supt. of Prisons, Dept. of Justice, Washington, D. C.—Bids until Jan. 22 to furnish and deliver at U. S. Penitentiary, Atlanta, Ga., marble for corridor floors of administration building in accordance with specifications, which are obtainable at this office.

Manufactures.—Saml. Smith & Sons, Ltd., engineers and iron founders, Beehive Foundry, Smethwick, Eng.—Correspondence with American manufacturers; view to development of trade; engineering and hardware interests specialties.

Manufactured Products.—See Flour, etc., Herbert J. Camacho.

Manufactured Products.—C. D. Davies, manufacturers' agent, Box 163, Kingston, Jamaica.—Interested in American manufactures, view to representation; now handling boots and shoes, hats, underwear, hosiery, leather goods, pipes, knives, etc., earthen and enamel-ware, etc., hardware, crockery products, matches, wines and liquors, watches and jewelry, mirrors, etc.

Metal Lath, etc.—Office of F. H. Duchay, Supt. of Prisons, Dept. of Justice, Washington, D. C.—Bids until Jan. 22 to furnish and deliver at U. S. Penitentiary, Leavenworth, Kans., metal lath and plastering material to be used in constructing east main cell wing; copies of specifications at this office.

FOR the benefit of business concerns, engineers, contractors, machinery manufacturers, dealers and others who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

We issue every Business Day in the Year
THE DAILY BULLETIN

The construction news as published in the Daily Bulletin is invaluable to all business people who want to keep in daily touch with the organization of business enterprises of all kinds throughout the whole South. Unlimited possibilities for the creation of business, for securing contract work, for the sale of machinery and supplies of all kinds, for bond buyers and others, are to be found through a close following up of the news in the Daily Bulletin.

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office Comms. for Opening Streets, John L. Sanford, Prest., City Hall, where plans and profiles are on file; deposit of \$5 required for each set of specifications covering contract.

Grain Elevators.—Farmers' Union Warehouse & Storage Co., Anniston, Ala.—Correspondence with constructors of grain elevators; considering elevator of 5000, 10,000 or 15,000 bus. capacity; machinery to handle wheat, oats, corn and cottonseed.

Hardware.—See Manufactures, Samuel Smith & Sons, Ltd.

Hoisting Engines.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Prices on small (second-hand) single cylinder and single drum hoisting engine; also hoisting engine, double engine 10x12, 3 drums; no boiler.

Ironworking Machinery.—W. B. Smith, Prest., Board of Trustees, Gordon Institute, Barnesville, Ga.—Following machinery for technical department: lathe, drill, forges with blowers, pipe cutting and threading, etc.; all with individual electric motors.

Kaolin.—John M. Gray (sheriff), Jasper, Ala.—Data on kaolin production; processes; cost of equipping plant; market; etc.

Lathes, etc.—Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., Washington, D. C.—Bids until Jan. 5 to furnish head lathes, milling and wire feed screw machines, Schedule 7236; delivery Washington.

venworth, Kans., metal lath and plastering material to be used in constructing east main cell wing; copies of specifications at this office.

Mining (Coal) Machinery.—See Well-drilling Machinery.

Oil (Lubricating).—G. Mossa, Rua S. Jose, Rio de Janeiro, Brazil.—Correspondence with manufacturers of lubricating oil; view to representation.

Oil Mill Machinery.—Brundidge Fertilizer Co., Brundidge, Ala.—To correspond with manufacturers of peanut-oil machinery; data on peanut-oil manufacture, value of product, etc.

Paper Boxes.—J. E. Long, 3 Horton Bldg., Henry St., Roanoke, Va.—Names and addresses of manufacturers of paper boxes.

Paving.—Board of Public Works, Louisville, Ky.—Bids until Jan. 11 to pave Hill St. from 4th to 6th St. with bituminous concrete; vitrified brick gutters and granite block stringers; samples of vitrified and granite blocks to be submitted with bid; drawings and specifications on file with Board of Public Works.

Paving, etc.—City Council, Miami, Fla. Bids until Jan. 7 to grade and pave following streets with Miami coralline rock: Ave. M, 8th to 10th St., width 16 ft., about 700 ft.; Ave. F, 18th to 20th St., width 16 ft., 700 ft.; Ave. L, 1st to Johnson St., width 16 ft., 398 ft.; 24th St., Brickell Ave. eastwardly, 606 ft. (to include concrete curbs and gutters); Miami Ave., Broadway to city

limits, width 18 ft., 10,042 ft.; plans, drawings, etc., on file with W. B. Moore, City Clerk.

Paving.—Comms. of Public Works, D. B. McKay, Chrmn., Tampa, Fla.—Bids until Jan. 5 to repave Tampa St. from Polk to Cass St.; work to consist in taking up and relaying old pavement and grouting joints with asphalt filler; also to furnish new brick necessary; about 1000 sq. yds.; specifications obtainable at office City Engr.

Paving.—Chas. E. Bolling, City Engr., Richmond, Va.—Bids until Jan. 5 for smooth paving on Grace St. from Robinson St. to Boulevard, and on Floyd Ave. from Rowland St. to Boulevard; about 13,000 sq. yds.; proposal forms obtainable on application.

Paving.—City of Sulphur Springs, Tex.—Bids at office City Secy. until Jan. 19 for paving; 35,000 sq. yds. paving, 20,000 sq. yds. concrete curb and 12,000 cu. yds. earth excavation; bidders to agree to purchase \$30,000 bond issue; plans and specifications obtainable from A. D. Stivers, City Engr., for \$1.

Paving.—City Council, L. T. Lockwood, Prest., West Palm Beach, Fla.—Bids until Jan. 5 to pave streets; 40,000 sq. yds. macadam pavement and 29,900 sq. yds. rock surfacing; plans and specifications on file with Prest. of Council and may be obtained from Engr., J. B. McCrary Co., 1408-1417 Third National Bank Bldg., Atlanta, Ga., for \$10 (not \$5, as recently advised).

Paving.—Henry Zimmerman, City Secy., Sherman, Tex.—Bids until Dec. 28 for following street improvements: 26,000 sq. yds. paving, 1700 cu. yds. extra grading, 12,500 sq. yds. 14-in. ft. straight curb and gutter, 500 14-in. ft. curved curb and gutter; distance to be paved 7300 ft.; paving materials considered to include asphaltic concrete, bitulithic, Hanson compressed concrete, vitrolithic, Dolaway concrete surfaced with asphalt, Ardmore rock asphaltic macadam, vitrified brick blocks, creosoted wood blocks, etc.

Paving, etc.—Road Comms. (R. H. Crox and others), County Courthouse, Chattanooga, Tenn.—Bids until Jan. 6 to pave and lay combined cement curb and gutter on Main or Tremont St., North Chattanooga, bid No. 1; about 2542 ft.; paving material to be chert, asphalt macadam, asphalt concrete or concrete; also grade and construct chert road on Dodd Ave., Fifth Civil Dist., from Palmetto to 10th St., bid No. 2; grade and construct chert roadway on Bell Rd., Sixth Civil Dist., near old Farris House, at Harrison, Tenn., bid No. 3; blank proposal forms, contracts and bond, plans and specifications on application at office Road Comms., County Courthouse.

Paving Materials.—Atlantic City Development Co. of Maryland, E. L. Tunis, Prest., 120 E. Lexington St., Baltimore, Md.—Prices on material for cement sidewalks and concrete streets.

Piping.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Prices on 3000 ft. 5-in. iron pipe for air compressor lines.

Pipe.—City of Vicksburg, Miss.—Bids at office of J. J. Hayes, Mayor, until Jan. 4 to furnish equipment and material for service connections, according to plans and specifications on file office of A. M. Paxton, City Clerk.

Printing Press (Burlap Bag).—Virginia Bag Co., 27 Roanoke Dock, Norfolk, Va.—New or second-hand press for printing burlap bags.

Rails.—American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Prices on 2 to 3 track mi. 25 to 30 lb. relaying rails.

Railroad Equipment.—Atlantic City Development Co. of Maryland, E. L. Tunis, Prest., 120 E. Lexington St., Baltimore, Md.—Prices on narrow-gauge railroad, entire equipment; 16 to 20-lb. rails, new or re-rolled.

Road Construction.—Morgan County Comms., Warburg, Tenn.—Let contract Jan. 2 to build about 80 mi. pike roads; to be let as whole; plans and specifications at office of Engr. at Warburg. Address C. A. Quinn, Secy., Lansing, Tenn.

Road Construction.—Marshall County, Edwin Kirk, Clerk, Madill, Okla.—Open bids Jan. 4 for stone and concrete culvert on 55 mi. roads; \$35,000 available; Chas. E. Hagerly, Engr., Muskogee, Okla.

Road Construction.—Henrico County Supvrs., W. C. Saunders, Chrmn., Richmond, Va.—Bids until Jan. 11 at office State Highway Com., G. P. Coleman, State Highway Com., to construct about 1/2 mi. water-bound macadam on Broad St. Rd.; plans and specifications on file with State Highway Com.

Road Construction.—Anson County Comms., D. M. Johnson, Secy., Wadesboro, N. C.—Bids until Jan. 4 to construct about 6 mi. sand-clay or gravel road from Wadesboro to Morven township; blank proposal forms, specifications, etc., obtainable from Kiker & Corr, Engrs., 406 Trust Bldg., Durham, N. C., or from Secy. County Comms.

Roofing Slate.—Burkes Construction Co., Hattiesburg, Miss.—Prices on 10x16-in. best quality blue Bangor slates, f. o. b. Perkinston, Miss.

Roofing and Siding.—Carolina Electric Co., H. C. McNair, Prest., Maxton, N. C.—Prices on iron roofing and siding for electric-light plant, Whiteville, N. C.

Rubber Goods.—See Vulcanite and Rubber Goods, C. O. Schummer & Co.

Safe.—Farmers' Bank, New Florence, Mo. Prices on safe.

Sand Tables.—Bradley Lead & Zinc Co., S. M. Bradley, Prest., Joplin, Mo.—Prices on sand tables.

Seawall.—City Council, L. T. Lockwood, Prest., West Palm Beach, Fla.—Bids until Jan. 5 to construct seawall; 1350 cu. yds. of reinforced concrete, 73.44 tons of steel reinforcement, 11,460 lbs. of anchor rods, bolts, nuts and washers; 5720 14-in. ft. of 10-in. round pile, 99,423 cu. yds. of fill, 2415 sq. yds. of sidewalk; plans and specifications on file with Prest. of Council and with Engr., J. B. McCrary Co., 1408-1417 Third National Bank Bldg., Atlanta, Ga.; plans and specifications obtainable from Engr. at \$10 (not \$5, as recently advised).

Sewer Construction.—Board of Awards, John Hubert, Acting Prest., Baltimore, Md.—Bids until Jan. 6 to construct section 3 of Jones Falls interceptor, sanitary sewer contract No. 142; 7000 cu. yds. earth excavation, 425 cu. yds. rock excavation, 1900 14-in. ft. brick and concrete flattened sewer, 675 14-in. ft. 33-in. and 1250 14-in. ft. 27-in. sewers, 420 14-in. ft. house connections, 12 tons cast-iron specials, 28,000 lbs. reinforcing steel; Calvin W. Hendrick, Chief Engr. of Sewerage Com.; specifications obtainable from office of Harry W. Rodgers, Secy., 904 American Bldg.

Sewer Construction.—Baltimore (Md.) Board of Awards.—Bids at office of City Register, City Hall, until Jan. 6 to build lateral sewers and house connections in Dist. No. 5-B; 19,000 14-in. ft. 8-in. to 20-in. sewer and 20,500 14-in. ft. house connections; specifications and plans on file at office Harry W. Rodgers, Secy. Sewerage Com., 904 American Bldg.; charge of \$5 for each set of specifications and plans.

Sewer Construction.—City Council, L. T. Lockwood, Prest., West Palm Beach, Fla.—Bids until Jan. 5 to construct sanitary sewers; 16,600 ft. 8-in., average depth 4 ft. 6 in.; 3360 ft. 10-in., average depth 4 ft. 5 in.; 1315 ft. 12-in., average depth 4 ft.; 43 manholes, 19 automatic flush tanks, 5 lamp-holes, necessary Y branches; plans and specifications on file with Prest. of Council and may be obtained from J. B. McCrary Co., Engr., 1408-1417 Third National Bank Bldg., Atlanta, Ga., for \$10 (not \$5, as recently advised).

Structural Steel, etc.—Panama Canal, F. C. Boggs, Gen. Purchasing Officer, Washington, D. C.—Bids until Jan. 23 for furnishing, or furnishing and erecting, structural steel and miscellaneous material for Pier No. 7, Cristobal Terminal Docks; blanks and general information relating to this circular (No. 588) may be obtained from this office or offices of assistant purchasing agents, 21 State St., New York; 614 Whitney-Central Bldg., New Orleans, and 1086 North Point St., San Francisco; also from U. S. Engr. offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Telephone Equipment.—Water, Light and Sewerage Equipment, H. Amentz, engineer, Milton, Fla.—Fire alarm system; 4 or 5 call boxes, intercommunicating telephones, station gong, etc.

Vulcanite and Rubber Goods.—C. O. Schummer & Co., 93 Aldersgate St., London, E. C., Eng.—Interested (view to representation) in articles made of moulded vulcanite, such as spray producers, nasal olives, vulcanite and glass syringes, etc.; also interested in India rubber goods (made by dipping moulds in rubber solution), including India rubber preservatives and globes, bathing caps, etc.

Water-works.—Atlantic City Development Co. of Maryland, E. L. Tunis, Prest.,

120 E. Lexington St., Baltimore, Md.—Prices on water-works.

Well-drilling Machinery.—Atlantic City Development Co. of Maryland, E. L. Tunis, Prest., 120 E. Lexington St., Baltimore, Md.—Prices on well-drilling machinery.

Well-drilling Machinery.—A. S. Preston, Secy.-Treas., Jasper Land Co., Jasper, Ala.—Prices on drilling outfit for drilling water wells and prospecting for coal.

Woodworking Machinery.—Folding Furniture Co., 408 Keller Bldg., Louisville, Ky.—May be in market about March for woodworking machinery, including planers, lathes, etc.

Woodworking Machinery.—W. B. Smith, Prest., Board of Trustees, Gordon Institute, Barnesville, Ga.—Following machinery for technical department: Single surfacer, jointer, rip saw cutoff saw, band saw, tenoner, boring machine, etc.; all with individual electric motors.

FINANCIAL NEWS

THE MANUFACTURERS RECORD invites information about Southern financial matters. Items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ala., Ashland.—Farmers' State Bank of Ashland, capital \$15,000, is to begin business immediately.

Ark., Stuttgart.—The Farmers & Merchants' Bank, with a paid-up capital of \$100,000, is reported to have begun business. Walter Meacham, Prest.; J. P. Rich, V.-P., and A. W. Harper, Cash. This succeeds the Bank of Commerce and Trust Co.

Ga., Leesburg.—Lee County Bank, capital \$20,000, is chartered. Incorporators: H. R. Stovall, J. A. Lipsey, S. J. Yeoman and associates.

Ga., Savannah.—The American Bank & Trust Co., capital \$200,000, will begin business Jan. 10. Charter is applied for. Wm. W. Davis will be Prest., Harry C. Anderson V.-P., Valmore W. Lebey Secy. and Treas.; directors, Wm. B. Stephens, Stephen N. Harris, F. P. McIntire, Wm. V. Davis, E. W. Rosenthal, F. W. Henges, H. C. Anderson, Geo. C. Heyward, Jr., Wm. J. Robider, Robt. J. Travis, A. D. Strothgar, H. C. Brinkman and V. G. Schreck. The company will be located at Bay and Drayton Sts., but temporary offices will be at No. 9 Bay St. East. The organizers were all officers of the old Savannah Trust Co., but resigned when that company consolidated with the Chatham Bank.

Ky., Owensville.—Farmers' Trust Co. has filed articles of incorporation; capital \$20,000. Incprts.: J. B. Goodpaster, W. M. Wright and C. W. Goodpaster.

Mo., New Florence.—Farmers' Bank Incptd., capital \$10,000; S. C. Lee, Prest.; J. R. Schroer, V.-P.; C. E. Schroeder, Cash., Warrenton, Mo. Business is to begin Feb. 1.

Mo., St. Louis.—United Railways Savings and Loan Assn. has filed articles of incorporation; capital \$1,000,000; organizers, Martin Arbelger, John Adkins, Thomas C. Benish, P. Concannon, Alfred W. Keith, Bruce Cameron, William Finn and others.

Okla., Bixby.—Bixby State Bank chartered; capital \$10,000. Incprts.: Thomas Gilcrease, B. M. Gilcrease and T. J. Hartman of Tulsa.

Okla., Tulsa.—An industrial banking institution is being organized by the Commercial Club of Tulsa; J. C. Letcher is Secy. He says that the amount of capital has not yet been decided; neither has a name been selected.

S. C., Charleston.—The Germania National Bank of Charleston is approved; capital \$200,000; organizers, Henry Schachte, J. H. Johns, W. F. Ostendorf, J. D. Lesemann, H. Plenge and A. W. Jager. This succeeds the Germania Savings Bank.

S. C., Columbia.—The Columbia Mortgage & Trust Co., recently chartered, has been authorized to increase capital to \$100,000. Company has begun business with offices in the Palmetto Bldg. S. T. Carter is Prest.; Jas. A. Hoyt, V.-P.; L. Bremer, Secy. and Treas.; R. Beverley Eloan, Atty.

S. C., Elloree.—First National Bank of Elloree, capital \$42,000, has applied for charter. Conversion of the Bank of Elloree, of which Robert Lide is Prest., W. M. Fair and

A. A. Dantzer V.-Ps., and Preston P. Hungerpiller Cash.

S. C., Lake City.—The Farmers and Merchants' National Bank of Lake City is approved. This is a conversion of the Farmers and Merchants' Bank.

S. C., Sumter.—National Bank of Sumter is approved; capital \$200,000. This is a conversion of the Bank of Sumter.

Tex., Dawson.—First National Bank of Dawson is approved; capital \$25,000. This is a conversion of the Dawson State Bank.

Tex., El Paso.—Farmers' Loan Co. is being organized with \$250,000 capital by Felix Martinez.

Tex., Irene.—First National Bank has made application for charter; capital \$25,000; organizers, W. R. Mason, Y. H. Greer, J. A. Merrell, J. K. Parr and R. C. West. This succeeds the Bank of Irene.

Tex., Jasper.—Jasper County Abstract Co. is chartered; capital \$5000. Incprts.: H. C. Howell, H. O. Howell and A. L. Mays.

Tex., Paris.—Mutual Investment Co., capital \$10,000, is organized to invest in land and other real estate. C. W. Elliott is Chrmn. of the executive committee; R. G. Stockey, Secy.; G. R. Coleman, Treas., and E. H. McGlasson, trustee.

Tex., San Angelo.—Central National Bank of San Angelo is chartered, being a conversion of the San Angelo Bank & Trust Co. Capital is \$250,000; surplus \$27,000. Began business Dec. 14. C. C. Walsh is Prest., J. D. Sugg V.-P., C. C. Kirkpatrick Cash., O. C. Cartwright Asst. Cash.

Va., Roanoke.—National Exchange Bank and the City National Bank of Roanoke are to be consolidated, says a report, under date of Dec. 31, retaining for the merged institution the name of National Exchange Bank of Roanoke. It will have authorized capital of \$500,000, surplus \$500,000 and undivided profits \$200,000. J. B. Fishburn is Prest. of the National Exchange and D. M. Taylor is Prest. of the City National.

Va., Roanoke.—Shenandoah Life Insurance Co. is chartered; capital \$500,000; surplus \$375,000. R. H. Angell is Prest., Roanoke; E. Lee Trinkle, V.-P., Wytheville; W. J. Henson, Atty.; J. H. Dunkley, Medical Chief; W. L. Andrews, Secy.-Treas., Roanoke.

NEW SECURITIES

Ala., Birmingham.—Bids will be received by Board of Revenue, R. F. Lovelady, Prest., until noon Jan. 11 for \$300,000 5 per cent. 16-year full warrants; denomination \$500.

Ala., Gadsden.—\$30,000 5 per cent. 30-year municipal bonds are reported purchased by Steiner Bros., Birmingham, Ala.

Ala., Vernon.—\$75,000 Lamar county bonds for roads and refunding warrants were voted Dec. 21. R. L. Bradley is Judge of Probate.

Ark., Banks.—\$9000 5 per cent. Banks School Dist., Bradley county, bonds have been purchased by Gunter & Sawyer of Little Rock.

Ark., Bigelow.—\$10,000 6 per cent. bonds Bigelow Special School Dist., Perry county, have been purchased by Gunter & Sawyer of Little Rock; denomination \$500; dated Dec. 1, 1914.

Ark., Devall Bluff.—\$60,000 bonds Road Dist. No. 1, Prairie county, have been purchased by Wm. R. Compton & Co., St. Louis.

Ark., Mt. Ida.—\$25,000 Montgomery county courthouse warrants have been purchased by Gunter & Sawyer of Little Rock.

Fla., Daytona Beach.—\$8500 6 per cent. 20-year water bonds have been purchased at par by local parties. Address The Mayor.

Fla., High Springs.—\$6000 High Springs School Dist. bonds are voted. Address Board of Education.

Fla., Lynn Haven.—\$10,200 street-improvement bonds have been sold to Rudolph Kleybolte & Co., Chicago.

Fla., Miami.—\$140,000 municipal dock bonds have been awarded to R. M. Grant & Co., Chicago, Ill., at 95 and accrued interest.

Fla., Miami.—\$10,000 hospital and \$4000 sewer bonds have been purchased by Spitzer, Rorick & Co., Toledo.

Fla., New Smyrna.—Election is to be held Jan. 12 to vote on \$63,000 water, sewer and funding bonds. Address The Mayor.

Fla., Tallahassee.—Bids will be received until noon Feb. 1 for \$34,000 5 per cent. 30-year street bonds; denomination \$1000; dated Feb. 1, 1915. A. H. Williams is City Clerk.

Fla., Tallahassee.—Bids will be received until noon Feb. 1 by A. H. Williams, City

[For Additional Financial News, See Page 70.]

Merchants-Mechanics National Bank

South and Water Sts. BALTIMORE, MD.
 DOUGLAS H. THOMAS, President
 JNO B RAMSAY V.-P and Chm Bd. of Dir.
 JOHN B H. DUNN, Cashier
 Capital \$2,000,000 Deposits \$21,670,000
 Surplus and Profits \$2,175,000
 Accounts of Banks, Bankers, Corporations and Individuals solicited.
 We invite correspondence.

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 August 9th, 1913, Surplus and Profits, \$764,091.00
 OFFICERS
 WALDO NEWCOMER, President.
 SUMMERFIELD BALDWIN, Vice-Pres.
 R. VINTON LANSDALE, Cashier.
 C. G. MORGAN, Asst. Cashier.
 Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals invited.

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 INCORPORATING under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations. BANKING AND TRUST department gives special attention to out of town customers' accounts. TITLE DEPARTMENT examines and guarantees title to realty throughout Delaware. REALTY DEPARTMENT has sites for manufacturing industries. Modern Methods of management of property.
 J. ERNEST SMITH, President and Gen. Counsel.
 WM. G. TAYLOR, Vice-Pres. and Treasurer.
 HARRY W. DAVIS, Vice-Pres. and Secretary.
 W. W. PUSEY, 2nd. Title and Real Estate Officer.

The First National Bank

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 United States Depository and Disbursing Agent
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 A general banking business transacted. Special attention given to collections.

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 W. M. ADDISON, Cashier

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MERCANTILE TRUST AND DEPOSIT COMPANY OF BALTIMORE

A. H. S. POST, President

F. G. BOYCE, Jr., Vice-President

Clerk, for \$20,000 5 per cent. 30-year paving and \$14,000 5 per cent. 30-year grading and curbing bonds.

Fla., Tampa.—Bids will be received until 11 A. M. Jan. 5 for \$3000 6 per cent. school bonds Special Tax Dist. No. 52 (Seffner Dist.) \$5000 6 per cent. bonds Special Tax Dist. No. 31 (Wimauma Dist.); \$60,000 5 per cent. bonds Special Tax Dist. No. 45 (West Tampa Dist.), Hillsborough county, school bonds. Marshall Moore is Secy. Board of Public Instruction Hillsborough County.

Fla., Tarpon Springs.—The election to vote on \$25,000 school bonds to take up outstanding indebtedness will probably be held in Feb. Address Supt. Hollins of Tarpon Springs School Board.

Ga., Rome.—Recommendation is to be made to the City Council that an election be called to vote on \$75,000 municipal building and \$25,000 hospital bonds Address Mayor Hanks

Ga., Rome.—Election will probably be called in Floyd county to vote on \$20,000 hospital bonds. M. B. Wubanks is County Atty.

Ga., Wadley.—\$6400 electric-light bonds are voted. Address The Mayor.

Ga., Wadley.—\$64,000 5½ per cent. 10-year \$100 electric-light-plant bonds voted Dec. 21 have been purchased by Singleton-Smith Co., Macon, Ga. T. B. Johnson is Mayor.

Ky., Pineville.—Election will be held in Bell county Feb. 13 to vote on \$250,000 road bonds. Address County Comms.

Ky., Pineville.—Election Feb. 13 on \$250,000 of Bell county road and bridge bonds; rate of interest and date of maturity yet to be determined. W. C. Bingham is County Clerk.

La., Alexandria.—Election is to be held in Rapides parish Jan. 19 to vote on \$100,000 5 per cent. road and bridge bonds Road Dist. No. 2. C. E. Robinson is Prest. Rapides Parish Police Jury.

La., De Ridder.—Election Jan. 11 on \$160,000 of 5 per cent. 20-year road bonds of Road Dist. No. 1, Beauregard parish, which, under the law, cannot be sold at less than par. Address J. H. Jackson.

La., Donaldsonville.—An ordinance has been prepared providing for the issuing of \$48,700 of 5 per cent. certificates of indebtedness. A. J. Melancon is Clerk.

La., Hahnville.—All bids received for bonds of Road Dist. No. 3, St. Charles parish, were rejected and new bids will be opened Jan. 25. Address Police Jury.

La., New Orleans.—Ordinance is reported passed providing for the issuing of \$500,000 paving certificates. Address The Mayor.

Miss., Greenville.—Bids will be received until noon Jan. 4 for \$100,000 30-year refunding railroad bonds. Interest not to exceed 5 per cent. W. W. Miller is Clerk Board of Supervisors of Washington County.

Miss., Hattiesburg.—Bids will be received until Jan. 21 for \$10,000 6 per cent. 14-year first mortgage sidewalk-improvement certificates. Address Epley Construction Co. Further particulars will be found in the advertising columns.

Miss., Meridian.—Bids will be received until 2 P. M. Jan. 6 for \$50,000 road bonds Dist. No. 1, Lauderdale county; dated Feb. 1, 1915; maturity 1916 to 1930, inclusive; denomination \$500; interest not to exceed 5½ per cent. W. R. Pistole is Clerk Chancery Court.

Miss., Quitman.—\$75,000 municipal-improvement bonds have been sold at 98.02. Address The Mayor.

Miss., Philadelphia.—City proposes to issue \$300,000 bonds for water system. Address The Mayor.

Miss., Senatobia.—Bids will be received until Jan. 4 for \$20,000 6 per cent. 5-25-year Agricultural High School bonds. Address J. A. Wooten, Chancery Clerk Tate County.

Miss., Walthall.—\$40,000 of Webster county courthouse bonds, 6 per cent., 20-year, have been sold at par to John Nuvien & Co. of Chicago; denomination \$1000. T. C. Hays is Treas. and E. T. Gwin Chancery Clerk.

N. C., Andrews.—Bids will be opened Jan. 20 for \$10,000 30-year school district bonds. Bids are asked at both 5½ and 6 per cent. Address G. W. Cover, Secy. and Treas.

N. C., Danbury.—Election is to be held in Quaker Gap township, Stokes county, to vote on \$50,000 road bonds. Address County Comms.

N. C., Pittsboro.—The \$20,000 5 per cent. Haw River township, Chatham county, road-improvement bonds recently voted are 30-year 5 per cent. Bonds will be ready for sale after Jan. 4. Address Fred W. Bynum, County Attorney.

N. C., Pittsboro.—Petition is being circulated in Cape Fear township, Chatham county, asking that an election be called to vote on road bonds. Address County Commissioners, Oliver T. Bacon, Chrmn.

N. C., Smithfield.—Ingram township, Johnston county, has voted \$40,000 road construction bonds. Address County Comms.

Okla., Tulsa.—All bids received Dec. 21 for the \$500,000 5 per cent. 20-year school bonds were rejected. Ray S. Fellows is Clerk Board of Education.

S. C., Columbia.—\$200,000 sewer and \$300,000 water-works bonds were declared invalid by the courts, and another attempt will be made to issue them. L. A. Griffith is Mayor.

S. C., Rock Hill.—\$50,000 5 per cent. bonds have been purchased by J. H. Hilsman & Co., Atlanta.

Tenn., Chattanooga.—A \$150,000 bond issue for street improvements will be authorized as soon as market can be found for them. T. C. Thompson is Mayor.

Tenn., Jonesboro.—\$7500 of \$12,000 refunding and \$3000 improvement 6 per cent. 5-20-year bonds have been purchased by local parties. Address The Mayor.

Tenn., Jonesboro.—Petitions are being circulated in Washington county calling for an election to vote on \$300,000 road bonds. Address County Comms.

Tenn., Mason.—Steps are being taken to issue bonds early in the year for electric-light plant. Address The Mayor.

Tex., Anderson.—Election is to be held Dec. 31 to vote on \$30,000 road bonds Singleton Dist., Grimes county. Address County Commissioners.

Tex., Austin.—The Attorney-General has approved the following securities: \$300,000 5 per cent. 40-year bonds Wharton County Road Dist. No. 1.

Tex., Ballinger.—Election will probably be held in Runnels county to vote on \$150,000 road bonds. Address County Comms.

Tex., Bastrop.—\$50,000 Justice Precinct No. 1, Bastrop county, road and bridge bonds have been purchased by Cincinnati parties. Address County Comms.

Tex., Belton.—Bids will be received until 10 A. M. Jan. 13 for \$106,000 5 per cent. 40-year bonds Road Dist. No. 7, Bell county. Address Comms.' Court Bell County, W. E. Hall, Auditor.

Tex., Brenham.—\$15,000 water and \$15,000 sewer 5 per cent. 10-40-year bonds are being offered at par. Address The Mayor.

Tex., Bryan.—\$12,000 of 5 per cent. 20-40-year street grading and paving bonds, denomination \$500, have been sold to J. L. Arlitt of Austin, Tex., who represents Ohio parties. W. W. Harris is Mayor and Henry Crenshaw City Secy. of Bryan.

Tex., Cleburne.—Election is to be held in Jan. to vote on sewer and school bonds. Address Mayor Breech.

Tex., Corpus Christi.—Election is to be called within 30 days to vote on \$100,000 street bonds. Address The Mayor.

Tex., Denton.—Steps are being taken to issue \$110,000 school, street, sewer and other improvement bonds, and election will probably be called Jan. 21. Address The Mayor.

Tex., El Paso.—Bids will be received until 10 A. M. Jan. 11 for \$65,000 40-year bonds Concordia School Dist., El Paso county, school bonds. Address Roy D. Barnum, County Auditor.

Tex., El Paso.—Bids will be received until 10 A. M. Jan. 11 for \$360,000 of 5 per cent. 20-40-year courthouse bonds of El Paso county. Issued Apr. 10 last; denomination \$1000. Roy D. Barnum is County Auditor.

Tex., Ennis.—City is reported to have sold \$177,500 municipal improvement bonds. Address W. D. Farris.

Tex., Greenville.—Bids will be received until Jan. 27 by W. N. Henly, Auditor Hunt County, for \$400,000 5 per cent. road bonds.

Tex., Houston.—\$200,000 school bonds recently voted will be offered to local parties. Address Mayor Campbell.

Tex., Lampasas.—\$14,000 5 per cent. 10-40-year Lampasas county bridge bonds have been purchased at par by J. B. Thompson, Dallas, and the Lampasas County Permanent School Fund.

Tex., Paris.—\$50,000 5 per cent. 10-40-year road bonds Precinct No. 1, Lamar county, have been purchased at par and interest by the City National Bank, Paris. Address County Comms.

Tex., Sulphur Springs.—Bids will be received until 2 P. M. Jan. 19 by B. C. Pate, City Secy., for \$30,000 5 per cent. street-paving bonds.

Tex., Waco.—Election is to be held Jan. 22 to vote on \$15,000 street, \$18,000 sewer and \$12,000 bridge bonds. Address The Mayor.

Tex., Waco.—\$25,000 sewer, \$12,500 bridge and \$10,000 street bonds will probably be issued. Address The Mayor.

Va., Dublin.—Election is to be held Jan. 22 to vote on \$5000 water-system-completion and street-curbing bonds, 6 per cent., 10-30s; denomination \$100; to be issued as soon as voted. Geo. C. Moomaw is Mayor.

W. Va., Wheeling.—Election is soon to be held in Richland School Dist., Ohio county, to vote on school-building bonds. Address Board of Education.

FINANCIAL NOTES

An interesting folder has been issued by Bowman, Cost & Co., investment bankers, St. Louis, Mo., upon the subject of Arkansas drainage district bonds. Many reasons are given why they should be attractive to investors.

The Commercial Trust and Savings Bank of Memphis, Tenn., has taken possession of its new building on the northeast corner of Main St. and Union Ave. The furnishings and the interior finish of the structure are all in red gum wood. A particular feature of the furniture is the directors' table of this material and 35 ft. long.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Drykiln Equipment Sales.

The L. Moore Drykiln Co., patentee and manufacturer of Moore's moist-air kilns, of Jacksonville, Fla., has recently sold three kilns 19x104 feet to Winyah Lumber Co. of Georgetown, S. C., also three rooms 20x109 feet to the Twin Tree Lumber Co. of Maplesville, Ala.

Will Represent Keller Pneumatic Tool Co.

The Jeffrey-Griner Machinery Co., Bourse Bldg., Philadelphia, has been appointed exclusive sales agents for the Keller Pneumatic Tool Co. of Fond-du-Lac, Wis., for the district 250 miles radius of Philadelphia, except New York city, but including Baltimore, Washington, Richmond and Norfolk.

The American Train Control Co.

Calvin W. Hendrick, president of the Jones Safety Train Control System Co., announces the company's name has been changed to The American Train Control Co., with offices at the same address, 608 American Building, Baltimore. The company reports its closed-circuit principle, automatic control system is now in operation on the Maryland & Pennsylvania Railroad out of Baltimore.

Foundry and Machine Company Resumes Operations.

The Rutland Foundry & Machine Co. of Bennington, Vt., manufacturer and builder of woodworking, pumping and hoisting machinery, and contract work, in a letter to the Manufacturers Record, writes: "Owing to financial conditions our shop has been shut down for the past two months, but we are now preparing to resume operations on January 4, 1915, and expect to be able to keep things going throughout the year."

Six Carloads of Clay-working Machinery.

The Lehigh Sewer Pipe & Tile Co. and the Plymouth Clay Products Co., both of Fort Dodge, Iowa, and the Urichsville Clay Products Co. of Urichsville, Ohio, have purchased additional and complete clay-working equipment, including presses, dry and wet pans, etc., from the Taplin-Rice-Clerkin Company of Akron, Ohio. The total amount shipped on these three orders, together with unfinished shipments, it is said, will make over six carloads of machinery.

"Killdust" Floor Sweeping Compound.

The Peerless Lumber Co. of Rome, Ga., has purchased the Killdust Co. from the Holder Lumber Co. of the same city, and will continue to manufacture floor sweeping compound under the name of the Killdust Co. of Rome. "Killdust" is made from cedar sawdust, paraffine oil, red mineral, oil of cedar and several other things, and it is said to be a sanitary and germ killing dust preventing floor sweeping compound.

Edwards Steel Trucks.

Steel trucks in heavy sizes for railroads, steamship lines, packing houses, warehouses, etc., as manufactured by the Edwards Manufacturing Co. of Cincinnati, O., are said to be of practically indestructible construction. One continuous "U" shaped steel frame supports the steel wheels in a substantial manner, the upper part of the continuous "U" frame giving rigidity and strength.

The frame is made of angular steel, with riveted tee cross bars and detachable wooden handles bolted on.

Almirell & Co. Incorporated.

Announcement is made that the copartnership heretofore existing between the late Quimby N. Evans, J. A. Almirell and W. C. Adams has been dissolved, and the corporation of Almirell & Company, Inc., has succeeded to that business. The new corporation has the same personnel as the former copartnership, and is prepared to carry on its heating, ventilating and power-plant equipment business at No. 1 Dominick St., New York, with the same dispatch, thoroughness and integrity as characterized the former company.

Machine Tools and Equipment for Sale.

Peremptory liquidation sale, comprising the entire stock of new machine tools and equipment of the C. C. Wormer Machinery Co., Nos. 97-101 Woodbridge St. West, Detroit, Mich., will be held on the premises January 19, 20 and 21, 1915, by Samuel T. Freeman & Co., auctioneers, 1519-21 Chestnut St., Philadelphia. Catalogues describing the high-speed machine tools for iron and wood work, shafting, hangers, pulleys, chucks, high-speed steel small tools, etc., will be sent to interested persons upon application to the auctioneers.

Mazda Lamp Fixtures for Street-Lighting Service.

The introduction of high candle-power lamps and the new conditions under which they operate have necessitated an entire new line of fixtures to accommodate them properly. To provide for these contingencies, the General Electric Co. of Schenectady, N. Y., has designed a complete line of bracket type, pendant type and ornamental type of street-lighting fixtures. The highly ornamental "Norvalux" unit has been designed by the company for use where "White Way" lighting is desired.

Corrugated Culvert Patents.

The National Corrugated Culvert Co. of Middletown, O., is sending out a printed report of the opinion of the United States Court of Appeals, in which it says: "The large number of manufacturers of corrugated culverts in the United States, operating under the Watson patent, have just been informed by their attorney, Wallace R. Lane of Chicago, that the United States Court of Appeals for the Second Circuit, having final jurisdiction, has just handed down a mandate reversing the lower court and holding the Watson corrugated culvert patent valid."

Free Hotel and Sanatorium Sites.

In connection with the development, including a \$15,000 seawall and \$25,000 dike, up-to-date Turkish bathhouse and swimming pool, of the Espritu Santo Springs Company at Safety Harbor P. O., Fla., the company will donate hotel and sanatorium sites on the bay front adjoining the Espritu Santo Springs. The hotel property is valued at \$10,000, and the company states it will deliver a warranty deed to any party or parties who will build a 75 or 100-room hotel, the only conditions being that the building must be of brick or reinforced-concrete construction.

Continued on page 75.



Barrett's PAVING PITCH



Hennepin Ave., at 26th St., Minneapolis, Minn. Creosoted Wood Block Pavement, filled with Barrett's Paving Pitch.

Waterproof Under All Conditions

WATER and frost will ruin any road if they get into the foundation. Because this is so, the filler is as important a consideration as the brick or block of which the pavement is made. For a filler that is not waterproof under all conditions occasions endless repairs, expense and annoyance.

Paving Pitch is the only filler that forms an absolute waterproof bond, winter and summer.

In cold weather asphalt loses its adhesive quality, the brick shrinks away from the

brick or block, and cracks result, letting the water in.

In hot weather cement, being absolutely rigid, leads to cracks and "blow-outs", due to expansion. Again the water gets in.

Paving Pitch follows the block and clings to it in all weathers. It will outlast the pavement. Nor has it any defects as a filler. There is, however, a big difference in pitch.

To be sure of permanent results insist on "Barrett's".

Illustrated booklet free on request.

BARRETT MANUFACTURING COMPANY

New York
Pittsburgh

Chicago
Detroit

Philadelphia
Birmingham

Boston
Kansas City

St. Louis
Minneapolis

Cleveland
Salt Lake City

Cincinnati
Seattle

Classified Opportunities

MEN WANTED

WANTED—Experienced manager who will buy \$10,000 stock in woodworking company which has about \$60,000 invested; new, modern, well-equipped plant with good business. Address J. C. Braswell, President Rocky Mount Sash & Blind Co., Rocky Mount, N. C.

SALES AGENT, familiar with sawmill and wooden box making machinery, to handle an old-established line of Northern manufacture. Write for further particulars, stating experience and territory you can cover. Address No. 1675, care Manufacturers Record, Balto., Md.

IF QUALIFIED for executive, technical, mechanical, professional or administrative position carrying salary between \$2500 and \$12,000, write undersigned counsel, through whom strictly confidential preliminaries will be negotiated for important appointments. Send address only for prefatory details. R. W. Bixby, Lock Box 134-14, Buffalo.

SALESMEN WANTED. New Electric Hand Lamp; fits standard dry battery. Big opportunity; extra large profits; quickest seller ever produced. Retail to everybody from farmer to housekeeper. Dept. C, Metal Specialties Mfg. Co., Chicago.

ENGINEER WANTED with manufacturing experience in cement line. If investigation is satisfactory, must invest \$2000. Good salary and large profits on investment will be paid. Address No. 1669, care Manufacturers Record, Balto., Md.

PARTNER WANTED

WANTED—Managing partner. Owner of new and completely equipped manufacturing plant, consisting of machine shop, foundry and wood-working plant, wants practical man for partner with \$5000 or more. Plant and machinery new, up to date, never used, on Southern Railway, 60 miles from Washington, D. C. Well adapted to manufacture of farm implements, spraying machinery or automobile parts. Owner will put in plant and dollar for dollar working capital with practical, responsible partner. For particulars address Edward S. Wilder, Charlottesville, Va.

WANTED—A partner with \$12,000 capital to help develop and retail the most attractive and beautifully located real estate proposition in Florida. Nothing like it in the South. Large profit. I. A. Woods, Dade City, Fla.

AGENCIES WANTED

MANUFACTURERS wishing to place their goods in Texas through salesmen covering State may submit propositions to us with all details for consideration. W. Y. Rockwell & Company, Manufacturers' Agents, Suite 712 Wilson Building, Dallas, Texas.

WANTED—Sales agency for all lines pertaining to builders' specialties; East Tennessee area territory; can furnish satisfactory references to interested concern; modern warehouse facilities. Address Daniel Briscoe, Jr., 325-327 State St., Knoxville, Tenn.

SPECIALTY WANTED.—Manufacturer's agent wants good specialty, selling to factories and railroads in New England. Address P. O. Box 261, Springfield, Mass.

EXPORT—SOUTH AMERICA.—American citizen, age 37, married, many years' business experience, by actual contact, in all Latin America. Excellent credentials. Open for proposition. P. O. Box 186, Phila., Pa.

MANUFACTURERS' Agent desires Agency for lines pertaining to builders' specialties for Grand Rapids and Western Michigan. Address Manufacturers' Agent, 643 Michigan Trust Building, Grand Rapids, Mich.

FOREIGN SALES OFFICE prestige and benefits afforded two or three concerns (non-conflicting) in solicitation of Central and South American trade; former resident of Mexico; Spanish correspondence; highest bank references; commission basis, plus small pro rata office expense. Write Box 84, Sta. "A," Chattanooga, Tenn.

SITUATIONS WANTED

CIVIL ENGINEER open for a position with city or town as city engineer or manager; served in U. S. Engineers; municipal experience; will accept \$150 per month. No. 1674, care Manufacturers Record, Balto., Md.

ENGINEER of 30, experienced in designing, selling and constructing steam-power plants, heating and ventilating systems, refrigerating plants and automatic sprinkler systems, desires position of responsibility in the South or West. Address No. 1673, care Manufacturers Record, Balto., Md.

KAOLIN AND CHINA CLAY MANAGER, 20 years' experience, wishes position; familiar, and competent to develop mine and prepare this commodity at lowest cost; best of references. Address No. 1663, care Manufacturers Record, Balto., Md.

PLANNING-MILL SUPERINTENDENT open for position; practical, experienced and successful man in estimating, closing contracts and getting out work from blueprints; good manager and strictly sober. Address No. 1648, care Manufacturers Record, Balto., Md.

RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 25 lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 18c. per line; 300 lines, 16c. per line; 500 lines or more, 15c. per line.

WANTED—Position as advertiser or advertising and sales manager, preferably in the North. Have had varied and extensive experience with book publisher, newspaper, farm and timber land company and advertising agency. Capable of planning advertising and sales campaigns. Will be glad to give particulars in detail to anyone interested. Address No. 1666, care Manufacturers Record, Balto., Md.

MANAGER electric plant, town about 10,000, wishes to secure position with larger corporation; work satisfactory, but wishes to advance; technical training; 6 years' experience; good references. Address No. 1666, care Manufacturers Record, Balto., Md.

EDUCATIONAL

RENSSELAER POLYTECHNIC INST.: TUTE, TROY, N. Y.—Courses in Civil, Mechanical, Electrical and Chemical Engineering and General Science, leading to the degree of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), Chemical Engineer (Ch.E.), and Bachelor of Science (B.S.). Also special courses. Splendidly equipped new engineering laboratories. Send for catalogue to Registrar.

MODELS

MODELS MADE FOR INVENTORS.—General machine work. Designing and perfecting. Developing automatic devices and machinery. In a position to do all kinds of light tool and machine work. Prices reasonable. Estimates cheerfully given. Ideal Machine Works, 44 Ann Street, New York City.

EXCELSIOR MACHINES

MR. DEALER, are you in market for excelsior? Yes, always, and pay the highest price for the excellent clean grades always made with the improved machines manufactured by W. S. Minor, Northville, N. Y.

BUSINESS OPPORTUNITIES

\$5000 BUYS MACHINE SHOP, machinery, residence and stable worth \$6700; 30 miles from Philadelphia; wages cheap; permanent cash contract netting \$100 weekly; no outlay for material. Rare opportunity. Investigate. Henry Frick, Fricks, Pa.

FOR SALE—Water and light plant in growing town of 3000 in Southwest Ala.; will also consider selling ice plant in connection with water and light plant. Best of reasons for selling. For particulars apply to E. P. Kimbrough, Greensboro, Ala.

ACTIVE or silent partner wanted for the best Lead, Silver and Gold prospect in America. Can ship ore from the start. My 35 years' experience as a practical miner is back of this property. Will only deal with principal. Address No. 1670, care Manufacturers Record, Balto., Md.

WANTED—To connect with individuals who will be willing to invest \$15,000 in a very successful graphite company in the best section in the South. The company is most successful in selling its product, and with additional capital can enjoy increased sales at a large profit. The best references can be given. Address P. O. Box 732, Atlanta, Ga.

FOR SALE OR LEASE—A concrete warehouse containing 3 rooms with a floor space of 6000 sq. ft., or 72,000 cu. ft. capacity; has a spur track on one side and wagon drive on the other.

Also on the same tract of land a concrete hotel of 14 rooms. This property is at Austell, Ga., the source of Bowden and Beuscutt Litch Waters, on the Southern Railway, 18 miles west of Atlanta, at the junction of the Birmingham and Chattanooga Divisions. A fine chance for a man with push to make to good, easy living. Inquire of John W. Ash, 528 Temple Court, Chattanooga, Tenn.

COMPANY controlling 50 acres of Virginia soapstone (talc), with well-equipped pulverizing and sawing plant, offers one-half interest, with services, for \$5000, to increase output; 500 tons stone already mined. This is a chance of a lifetime. Stone, Box 612, Roanoke, Va.

SPANISH YOUNG MAN, with office in downtown, can spare a few hours daily to attend to any business, either foreign or domestic. Only small amount weekly to cover part of actual expenses. Address P. O. Box 2110, New York City.

TEN CHEMICAL FORMULAS FOR SALE with full specifications for manufacturing on large or small scale, \$50 to \$100 each. Standard products easy to make. Box 530, Atlanta, Ga.

LOCATION WANTED

WANTED—Board of Trades to know that we are going to build several large factories in the South during 1915. Will be glad to hear from all wishing to secure such an enterprise. Address No. 1668, care Manufacturers Record, Balto., Md.

FACTORY SITES

BALTIMORE FACTORY AND TERMINAL SITES.—Statement of Asa G. Candler, President The Coca-Cola Co.: "Investigation convinced us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities both by water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Locate in Baltimore and derive these advantages. We can provide accommodations to meet your requirements. Wm. Martien & Co., 3 N. Calvert St., Baltimore, Md.

INDUSTRIES WANTED

STAVE AND HICKORY MILLS

NORTH ARKANSAS.—Good locations for stave and hickory mills; have propositions for large or small mills. Write Jay Kerr, Harrison, Ark.

MISCELLANEOUS

CANNING FACTORIES, Creameries, Box and Fruit Package Factories and numerous other industries wanted along the Kansas City Southern Ry. Write Wm. Nicholson, Industrial Agt., 447 K. C. S. Bldg., Kansas City, Mo., for information regarding openings.

INDUSTRIAL PLANTS FOR SALE

MISCELLANEOUS

FOR SALE—A complete brick plant in good condition with capacity of 20,000 brick per day.

1 short log sawmill.
1 25-bbl. flour mill in brick building.
1 75-bu. corn mill in brick building.
1 corn and cob crusher.
The Flour Mill is kept going practically the year round. Price \$10,000, \$4000 cash, balance in three equal annual installments. Address Central Realty Co., Richmond, Va.

WATER FRONT PROPERTY

FOR SALE—WATER FRONT FOR BUSINESS OR MANUFACTURING PURPOSES IN JACKSONVILLE, FLORIDA.—A plot fronting 165 feet on main business thoroughfare and extending back about 800 feet to St. Johns River, containing about 3 acres, with all riparian rights. This property is right in the heart of Jacksonville, and can be bought at a reasonable price and on easy terms. For full particulars, price, etc., address Webber Building & Realty Co., 328 St. James Bldg., Jacksonville, Fla.

MINERAL AND TIMBER LANDS, WATER POWERS AND MISCELLANEOUS PROPERTIES

FOR SALE—Dividend-paying orange, grapefruit and pineapple groves, high-class town lots, town and river-front modern residences, stock farms, colonization tracts. Price \$5, \$250, \$550, \$6, \$10 and \$20 per acre. Pine, cypress, oak, gum and poplar timber tracts and timber leases and coal tracts. Write us your wants. Waters Realty Co., Walton, St. Lucie County, Florida.

WILL EXCHANGE for farm, timber, coal or large acreage the following properties: Large apartment downtown section, rented at \$25,950 per annum. Subject to 30% incumbrance, showing a net income of \$14,025. Clear of all expenses. Price \$300,000.

Also three-story steel-constructed apartment. Subject to 33% incumbrance, showing an annual income of \$5376. Price \$60,000. Three large apartments in Boston, Mass., one showing a gross income of \$22,176 and a net income of \$11,100. Price \$222,000. And one rented at \$11,000 per annum and showing a net income of \$3890. Price \$112,000. Also another apartment showing an income of \$10,200 per annum and a net income of \$4561. Price \$105,000. Can trade the last three properties in one deal or separate.

I have all kinds of real estate for sale or exchange everywhere. Wanted all kinds of real estate for sale or exchange. Arthur M. Connor, 223-24 Oxford Bldg., Washington, D. C.

WATER POWER

A FINE water-power of approximately 9000 primary H. P. capacity, on a good-sized river in a north Southern State, is offered for sale. It has been fully surveyed several times and is ready for development. No. 1671, care Manufacturers Record, Balto., Md.

GRANITE QUARRY

FOR SALE—Developed North Carolina gray granite quarry; also, complete quarrying and cutting plant. A bargain a/c estate. Address No. 1672, care Manufacturers Record, Balto., Md.

PEBBLE PHOSPHATE

FOR SALE—1200 acres pebble phosphate in Polk county, Florida, on R. R.; guaranteed two million tons; analysis averages 72% per cent. B. P. L. Average overburden 26 ft. A bargain if taken at once. Address Geo. C. Barton, owner, Lakeland, Florida.

COAL LAND FOR SALE

FOR SALE—Cheap coal and mineral lands in Birmingham district; large and small tracts; best investments for present or future developments. S. M. Meigs, Bessemer, Ala.

FOR SALE—3000 acres or more coal land; 6 veins; over 175,000,000 tons of coal can be taken out, besides a million dollars' worth of gas and young timber; average \$20 an acre. In time of war prepare for peace. Geo. H. Berlin, Kermit, W. Va.

FOR SALE—1000 acres of fine coal land in Southwest Virginia, on railroad. Prospects show millions of tons of coal, easily mined. Will sell cheap or lease on royalty. S. R. Preston Agency, Inc., Abington, Va.

COAL AND TIMBER LANDS

FOR SALE—NEW RIVER COAL LAND AND TIMBER.—In order to settle an estate, will sell 8000 acres New River coal land and timber, very near C. & O. Railroad. Owner, Box 248, Hinton, West Virginia.

TIMBER LAND FOR SALE

4700 ACRES valuable hardwood timber land in the mountains of Southwest Virginia for sale at bargain if taken promptly. Write owner's exclusive agents, Johnson's American & Foreign Real Estate Exchange, 826 Pennsylvania Ave., Washington, D. C.

VIRGIN HARDWOOD TIMBER FOR SALE.—Along the new C. & O. Ry. in Dickinson county, Virginia, about 8000 acres finest boundary in every respect to be found in this section. Prices reasonable. Write C. O. Ramsey, Coeburn, Va.

FOR SALE—80,000 acres virgin timber, mostly hardwood, some white pine and poplar, average 4000 to 7000 feet to acre; nearly all underlain with coal and in the oil fields of Central Tennessee; good title. Will make extreme low price to the man with the cash. Address the owner, A. F. Williams, 166 West Adams St., Chicago.

TIMBER LANDS FOR SALE.—Have two tracts of timber land for sale, one containing about 21,000 acres, upon which there is about 90,000,000 feet of timber, situated 8 to 14 miles from station; other tract contains about 4500 acres, upon which is about 19,000,000 feet of timber, 6 to 14 miles from station. Price \$12 per acre. Write M. L. Edwards, Rutherfordton, N. C.

FOR SALE—10,000 acres, principally white oak and hickory, in Louisiana; land fine for rice or other crops; absolutely safe investment with an immense speculative future. L. Matthews, 300 N 4th St., St. Louis, Mo.

TIMBER FOR SALE

FOR SALE—40,000,000 feet of good timber, with sawmill and complete outfit; very low freight rates to Gulf ports; very cheap and on easy terms. James A. Terry, Mobile, Ala.

FOR SALE—Nice little pine sawmill proposition of 700,000 feet near Norfolk; 6 miles R. R. If sold soon will make sacrifice. Party with small mill can clean up from \$3000 to \$4000 in 5 to 6 months if handled properly. Parties desiring such a proposition, will pay to investigate promptly. W. A. Joyner, Branchville, Va.

REAL TIMBER BARGAIN.—50,000,000 ft. 70% N. C. pine, poplar and cypress, all original growth; on Southern R. R. in South Carolina. Liberal terms and low price. J. P. Mulhern (owner), Augusta, Ga.

Classified Opportunities

FOR SALE—Hardwood timber on 5000 acres of mountain land immediately on railroad; principally oak, chestnut, hemlock and poplar; pay for as cut and sold. Address North Carolina Tail & Mining Co., Hewitts, N. C.

FARM AND TIMBER LANDS

A CHOICE TRACT of 2450 acres rich bottom land with Mississippi river front; 500 acres cultivated and improved with residence, barns, tenant-houses, etc.; 1950 acres heavy timber; oak, cypress, hickory, willow, ash, cottonwood, etc.; all fine farming land; near good town and railroads. On account of financial pressure the owner offers to sacrifice at only \$10 per acre. De Soto Land Co., Baton Rouge, Louisiana.

COLONIZATION LANDS

FLORIDA—20,000-acre tract in solid body, 11 miles on railroad, 5 on water, \$7 per acre with timber, \$3 without timber, half cash. Tract 720 acres, \$6 per acre in bulk. Farm with buildings, fruit, \$20 acre. L. S. Chadwick, Jacksonville, Fla.

FRUIT, FARM AND TRUCK LANDS

ALABAMA

GOOD INVESTMENT—We offer for sale 13,000 acres of best farm, fruit and stock-raising land in solid body, situated only a short distance from Bay Minette in Baldwin county, Alabama.

This land lies well, being level to slightly rolling, with several streams of running water through the tract, making it very desirable for colonization purposes.

This tract can be purchased for the low price of \$7 per acre. Will arrange terms. T. L. Moore & Co., Room 109 Masonic Temple, Mobile, Alabama.

FLORIDA

THE PALATKA FARMS COMPANY of Palatka, Florida, offers to homesteaders the very superior advantages of splendid soil, adapted to potatoes, corn and trucking, or that for oranges and grapefruit, or for combination of both, with location unsurpassed, lying along the beautiful St. Johns River, 2 miles of Palatka, an up-to-date city of 8000 population. It boasts of electric light and gas plants, four railroads and cheap river transportation. Write for literature. P. J. Becks, Palatka, Fla.

PINEY POINT, the Deep-Water City. Other towns and would-be towns have to fight and wait for appropriations to get deep-water facilities.

Nature made it for us, and in addition gave us immunity from frost, for just north of Piney Point is the broad expanse of Tampa Bay.

Terrebonne Island and the Manatee River towns and farms have good water protection, but not deep water. We have both.

Also an abundant supply of artesian water for all purposes.

Nature laid the foundation. We are doing the rest. Will you join us? The Piney Point Land & Improvement Co., Palmetto and Piney Point, Fla. Jno. W. Jackson, Manager.

THREE MONTHS FREE—Subscription to the Indian River Farmer. For truckers, fruit growers, general farmers, and folks who want to know about Florida. Address Indian River Farmer, Dept. "V-1," Vero, Fla.

TEN AND TWENTY-ACRE TRACTS sold on long time; combination soil; orange and truck land; \$3 per acre down, \$1 per acre per month, payable quarterly; raise oranges, grapefruit, strawberries, vegetables and chickens; no tree-killing frosts; flowing wells; healthful climate year round. Write for free booklet. West Coast Realty Co., Inc., Sarasota, Florida. Dept. K.

FOR SALE—Water-front in small tracts on Manatee River, Florida; soil survey shows ideal citrus soil; fine home sites; boating, fishing; close to cities, Tampa Bay and Gulf resorts; flowing wells. Address Manatee River Land Co., Inc., 101 1/2 Franklin St., Tampa, Fla.

FOR SALE—50,000 acres in St. Lucie county, Florida; 20,000 acres in Manatee county; 30,000 acres in Lake county; 6240 acres in Polk county, all well located; excellent colonization tracts. Address P. F. Quinn, Vinton, Iowa.

CITRUS LAND—I have a tract of 2800 acres of the best citrus land in Orange County, Florida, near Orlando. A man with the money will buy this tract if he will take the time to inspect same. Price \$30 per acre. C. Campbell, Hamburg, Ia.

HAVE a large tract South Florida land, splendid for colonization, in center of citrus belt, which I must sacrifice. P. O. Box 4, Gardner, Fla.

GEORGIA

FOR SALE—An ideal place for stock farm; 2600 acres cut-over land; good pasture; plenty water; lot of cypress and second-growth pine; fine farm land if cleared; in Southeast Georgia. Address No. 1659, care Manufacturers Record, Balto., Md.

LOUISIANA

160-ACRE rich Delta farm, close to city; good schools; fine neighborhood, etc.; big bargain for cash or easy terms to the right people. Investigate this. For particulars, P. O. Box 365, New Orleans, La.

MISSISSIPPI

FOR SALE—1240 acres rich Yazoo Delta land; 800 acres cultivation; balance oak and gum timber; good residence, barn, store, gin, plantation sawmill; 23 tenant-houses, rents \$3500 a year; good season produces 75 bushels corn or 1 bale cotton per acre without fertilizer, \$42.50 acre; terms. C. C. Barbour, Vicksburg, Miss.

VIRGINIA

THE best agricultural and stock farm of 2700 acres in Eastern Virginia, on navigable tidewater, including 1700 acres of fine timber; brick barns, etc. Green & Redd, Richmond, Va.

VIRGINIA FARMS—Fine blue grass, grain and dairy farms in the heart of the Piedmont section of Virginia, Culpeper, Fauquier and adjoining counties. Ask for catalogue. The L. M. Allison Co., Real Estate Brokers, Remington, Va. Established 1896.

FOR SALE—Small farm in Norfolk county, Va. Fine land; on main road, 1/4 mile from R. R. station; good neighborhood. Address the owner, W. G. Bates, Gilmerton, Va.

FINANCIAL

CAN net you 6% on your money secured by first mortgage on improved city property at 30 to 50% of its value; bank reference. A. M. Treadwell, Holston Natl. Bank Bldg., Knoxville, Tenn.

PATENT ATTORNEYS

EUGENE C. BROWN, ENGINEER AND PATENT LAWYER, Suite 40 Victor Building, Washington, D. C. Member Bar U. S. Supreme Court. Patents and Trademarks. Inventions are considered both from Engineering and Legal standpoints in my prosecution of patents. An experience of over 9 years as Examiner in U. S. Patent Office and over 6 years as Patent Expert in important patent suits are my special qualifications. Reports upon validity and infringement. Send sketch of invention for advice.

VALUABLE INVENTIONS justify only best legal service. Consult Vernon E. Hodges, Attorney-at-Law, Barrister Bldg., Washington, D. C. Practice before the U. S. Supreme Court; all Circuit Courts; Courts of the District of Columbia, and the U. S. and Foreign Patent Offices exclusively. Continuous practice since 1888. Extensive experience with all classes of invention, representing lawyers, manufacturers and inventors in every State.

PATENT YOUR IDEAS—\$9000 offered for certain inventions; book, "How to Obtain a Patent" and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandler & Chandler, patent attorneys, 978 F St., Washington, D. C.

PATENTS secured or Fee returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for inventions. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., 12 Ninth St., Washington, D. C.

PATENTS THAT PROTECT AND PAY. Advice and books free. Highest references. Best results. Promptness assured. Send sketch or model for free search of Patent Office records. Trade-marks registered. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

PATENTS—Herbert Jenner, patent atty. and mechanical expert, 606 F St., Washington, D. C. I report free of charge if a patent can be had and its exact cost. Send for circular.





**Why It Pays Us to Be Sure
Every Installation Is a Success**

We make sure before a single steel shelf, bin or locker is installed that it is exactly suited to meet every requirement of use.

It is really an engineering problem to solve all the points connected with the installation of steel equipment; just as much so as is the designing of your factory.

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That is why we have Merritt Free Advisory Service backed by 25 years of engineering experience. We investigate all the different factors connected with your own steel equipment needs, and then recommend which type or arrangement of steel shelving, lockers or bins will meet your needs best. You are under no obligation in any way if you decide not to use Merritt equipment. But whatever equipment you buy, that is the basis on which it should be selected.

Such concerns as the following have used this Merritt service and installed Merritt Equipment:

- 1—Western Electric Co., for American Tel. & Teleg. System
- 2—National Equipment Company, Springfield, Mass.
- 3—A. Schrader Sons, Inc., New York City
- 4—American Pulley Company, Phila., Pa.

Dictate a memorandum of your needs and use our years of specialized experience to help you solve them. Special bulletins on any kind of steel equipment will be sent, too. No obligation, of course.

MERRITT & COMPANY
Kern Dodge, Receiver
51 N. Front St. Mfrs. of Steel Factory and Office Equipment Since 1889 Camden, N. J.



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PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

GOVERNMENT PROPOSALS

PROPOSALS FOR STRUCTURAL STEEL and Miscellaneous Material for Pier No. 7, Cristobal Terminal Docks. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. January 23, 1915, at which time they will be opened in public, for furnishing, or furnishing and erecting, the above-mentioned articles. Blanks and general information relating to this Circular (No. 888) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La.; and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, O.; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala.; and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C. December 17, 1914. Sealed proposals will be opened in this office at 3 P. M. January 25, 1915, for the construction complete (including mechanical equipment, lighting fixtures and approaches) of a two-story-and-basement stone, terra-cotta and brick-faced building of 400 square feet ground area, partly fire-proof construction, composition roof, for the United States Postoffice at Ennis, Tex. Drawings and specifications may be obtained from the custodian at Ennis, Tex., or at this office, in the discretion of the Supervising Architect, O. WENDEROFF, Supervising Architect.

U. S. ENGINEER OFFICE, Wilmington, N. C., November 21, 1914. Sealed proposals for construction of breakwater, including shore connection at Cape Lookout, N. C., will be received at this office until 12 M. January 5, 1915, and then publicly opened. Information on application. H. W. STICKLE, Maj., Engrs.

BOND OFFERINGS

Road Bonds

Sealed proposals will be received up to 10 o'clock A. M. Wednesday, January 13, 1915, for the purchase of all or any part of \$75,000 of Road District No. One of West Baton Rouge Parish serial coupon bonds, dated January 1, 1915, bearing 5 per cent. interest, payable semi-annually. Bonds of \$500 denomination and maturing in from 1 to 21 years. Deposit required with proposal, 2% per cent. of purchase price. No bid for less than par and accrued interest will be entertained. Full information furnished on application. F. J. WHITEHEAD, Secretary Police Jury, Port Allen, Louisiana.

Notice of Bond Sale

Brooksville, Fla.

The Board of County Commissioners of Hernando County, Florida, will receive bids for the purchase of the whole or any part of the issue of the following described bonds, at the Clerk's office of Hernando County, on or before the expiration of thirty days from the first publication of this notice, to wit: On the 9th day of January, 1915; the bids for said bonds to be opened and the bonds awarded on the 9th day of January, 1915.

The bonds hereby offered for sale are as follows: Three hundred thousand (\$300,000) dollars of funding and highway bonds of Hernando County, Florida, to be dated the day of sale, to wit, the 9th day of January, 1915; to mature thirty years from their date, to wit, the 9th day of January, 1945; to bear interest at the rate of five per cent. per annum, which interest shall be due and payable on January 1 and July 1 in each year. Bids will be received for the whole issue of said bonds or for any part thereof in denominations of one thousand dollars.

All bids shall be enclosed in sealed envelopes, addressed to the Board of County Commissioners of Hernando County, Florida, and marked "Bid for Bonds," and shall be accompanied by a certified check on a responsible bank or trust company for a sum equal to one per cent. of the amount of the bonds bid for.

The legality of said bonds will be approved by Messrs. Dillon, Thompson & Clay, Attorneys, of New York City, and their opinion as to the validity of the bonds be furnished to purchasers. Said bonds to be payable either by the proper officials at Brooksville, Florida, or at a designated bank in the City of New York.

The Board of County Commissioners hereby reserve the right to reject any or all bids. Witness our signatures at the Clerk's office at Brooksville, Florida, this December 7, 1914, in regular session.

H. D. EVANS,
Chairman of the Board of County Commissioners, Hernando County, Florida.

Attest:
M. H. SNOW,
Clerk of the Board of County Commissioners, Hernando County, Fla.

PROPOSAL ADVERTISING INFORMATION

RATE: 20 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 9 A. M. Wednesday. Copy received later cannot be published until issue of following week.

NIGHT LETTER: When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—20 cents per line per insertion.

\$10,000 6% Certificates

Bids will be received until January 21, 1915, for \$10,000 6 per cent. first mortgage sidewalk improvement certificates. Payable 1, 2, 3 and 4 years from date of issue.

For further particulars address

EPELEY CONSTRUCTION CO.,
Hattiesburg, Miss.

\$150,000 5% Bonds

Daytona, Fla.

Bids will be received by the Board of Public Works for \$150,000 5 per cent. 40-year sewerage and drainage bonds, until 3 o'clock P. M. January 21, 1915. Interest payable semi-annually in New York or in Daytona. A certified check for 3 per cent. of the amount of proposed purchase must accompany bids. Privilege is reserved to reject any and all bids. Address

E. M. CONDIT, Secretary.

\$42,000 5% Bonds and Water-Works Construction

Bids will be received by the City of Plaquemine up to 10 o'clock A. M. Tuesday, January 5, 1915, as follows:

First—For the purchase of forty-two thousand dollars of municipal bonds of City of Plaquemine, to run 34 years from September 1, 1914, bearing 5 per cent. interest, payable semi-annually on March 1 and September 1. Bonds to be made payable at place designated by successful bidder. Certified check for five hundred dollars, payable to L. B. Leblanc, Clerk, must accompany each bid, conditioned upon the faithful performance of all obligations on the part of successful bidder. The right is reserved to reject any and all bids.

Second—For the construction of a water-works system in the City of Plaquemine according to plans and specifications on file in Clerk's office at City Hall.

Any bidder shall have the right to submit bids for the purchase of bonds hereinabove mentioned, conditioned on being the successful bidder for construction of said water-works system.

Certified check for five hundred dollars, payable to L. B. Leblanc, Clerk, must accompany each bid, conditioned upon the faithful performance of all obligations on the part of the successful bidder hereunder. The right is reserved to reject any and all bids.

L. B. LE BLANC,
Clerk, City of Plaquemine, La.

Notice of Sale of Special Road and Bridge District No. 5 Bonds

Notice is hereby given that the Board of County Commissioners of the County of DeSoto, Florida, will receive sealed bids at the office of the Clerk of the Circuit Court, Arcadia, Florida, until 2 o'clock P. M. on the 5th day of January, A. D. 1915, for the purchase of bonds of Special Road and Bridge District No. 5, authorized and issued by the said Board of County Commissioners for the said Special Road and Bridge District No. 5 in the sum of three hundred and fifty thousand dollars.

The entire bond issue of three hundred and fifty thousand dollars, coupon form, is hereby offered for sale; the same are issued in denominations of five hundred dollars each, bearing date of the first day of October, A. D. 1914, maturing thirty years after date, bearing coupon form interest at the rate of 6 per cent. per annum, interest payable semi-annually, and interest and principal payable at Arcadia, DeSoto County, Florida.

The said Board of County Commissioners reserves the right to sell the whole or any part of the said bond issue and also to reject any and all bids.

Each bidder is required to furnish certified check for 2 per cent. of his bid as evidence of good faith. The said checks of unsuccessful bidders will be returned and the checks of the successful bidder will be forfeited in case he fails to comply with his bid. Each bidder will state the time when he will comply with his bid by paying money or other evidences thereof.

(Seal).

A. L. DURANCE,
Clerk of Circuit Court.

Notice to Contractors and Bond Buyers

Greenville, Tex.

The Board of Permanent Road Commissioners of Road District No. One, Hunt County, Texas, will on January 27, 1915, in the City of Greenville, Texas, consider proposals for the construction of a system of improved highways in said District. Plans, specifications and other information will be on file after January 11, 1915, in the office of Julian C. Feld, Consulting Engineer, Denton and Greenville, Texas, and with W. M. Henly, Secretary of the Board, Greenville, Texas. Funds available approximately \$400,000. Bidding check required, five per cent. (5%) of bid.

At the same time and at the same place the Commissioners' Court of Hunt County, Texas, will receive proposals for the sale of \$400,000 in five per cent. (5%) semi-annual Road District No. 1, Hunt County, Texas, road bonds.

The right to accept or reject any or all proposals is reserved.

W. M. HENLY,
Sec'y Board of Permanent Road Commissioners, Road Dist. No. 1, Hunt County, Texas, and Auditor for Hunt County, Texas.

PAVING AND GOOD ROADS

State Highway

STATE OF MARYLAND,
STATE ROADS COMMISSION,
601 Garrett Building,
Baltimore, Md.

NOTICE TO CONTRACTORS.

Sealed proposals for building 5 sections of State Highway, aggregating about 10.89 miles in length, as follows:

Contract No. A-11—*Allegheny County*: One section of road along the National Pike from near Cumberland to the Naves Farm Road, about 1.74 miles in length. (Resurfacing.)

Contract No. CE-17—*Cecil County*: One section of road through the town of Northeast, about 0.55 miles in length. (Macadam or Concrete.)

Contract No. CH-6—*Charles County*: One section of road from Bel Alton to Lothair, about 1.97 miles in length. (4" Gravel Surfacing.)

Contract No. CH-11—*Charles County*: One section of road from La Plata to near Ripley, about 5.23 miles in length. (4" Gravel Surfacing.)

Contract No. F-22—*Frederick County*: One section of road along the Gettysburg Road from Emmitsburg to Pennsylvania State Line, approximately 1.40 miles in length. (Macadam.)

Will be received by the State Roads Commission at its office, 601 Garrett Building, Baltimore, Md., until 12 M. on the 5th day of January, 1915, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application and cash payment of \$1 for each contract, as hereafter no charges will be permitted.

No bid will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission, this 17th day of December, 1914.

O. E. WELLER,
Chairman.WM. L. MARCY,
Secretary.

Road Construction

Bartow, Fla.

Sealed bids will be received by the Board of County Commissioners at Bartow, Polk County, Florida, up to noon on the first Tuesday after the first Monday in January, 1915, for the construction of one-quarter mile of sand oil road for each Commissioner's District in said county, there being five of such districts. Plans and specifications can be had by contractors at the office of the Clerk

of said Board after the first Monday in December, 1914. The Board in the event that said roads prove satisfactory, intend to construct several hundred miles of the same in the near future.

By order of the Board of County Commissioners, this November 5th, 1914.
J. A. JOHNSON,
Clerk of Board County Commissioners Polk County, Florida.

MISCELLANEOUS

Service Connections

Vicksburg, Miss.

Sealed proposals, endorsed "Proposal for Service Pipe," will be received by the Mayor and Aldermen of the City of Vicksburg, Miss., at the Mayor's office, until 5 P. M. January 4, 1915, for furnishing equipment and material for service connections for said city, according to plans and specifications on file in the office of A. M. Paxton, City Clerk, Vicksburg, Miss.

Each proposal shall be accompanied by a certified check for 5 per cent. of the total amount of bid.

Bond by an approved surety company will be required for 50 per cent. of amount of contract.

Bidders must name a surety company in proposal.

The right is reserved to reject any or all bids.

J. J. HAYES,
Mayor.

Sewer Construction

OFFICE OF THE SEWERAGE COMMISSION OF THE CITY OF BALTIMORE.

Baltimore, December 23, 1914.

ADVERTISEMENT OF SANITARY CONTRACT NO. 142, COVERING SECTION NO. 3, JONES FALLS INTERCEPTOR.

Sealed proposals, endorsed "Proposal for Building Section 3 of the Jones Falls Interceptor Sanitary Contract No. 142," addressed to the Board of Awards of Baltimore City, will be received at the office of the City Register, City Hall, Baltimore, until 11 A. M. Wednesday, January 6, 1915, for building Section 3 of the Jones Falls Interceptor, as shown on plans on file in the office of Mr. Calvin W. Hendrick, Chief Engineer of the Sewerage Commission.

Specifications and plans can be obtained upon application at the office of the Secretary of the Commission, Room 904 American Building, Baltimore, on and after Saturday, December 26.

A charge of \$5 will be made for each set of specifications and plans, which charge will be refunded upon the return on or before January 6, 1915, of the unused specifications and blueprints in good condition, or upon the return of the General Specifications and plans in case a bid is submitted.

A certified check of the bidders on a clearing house bank in the sum of \$2500, made payable to the order of the Mayor and City Council of Baltimore, will be required to be deposited with each bid.

Approximate Quantities:

7,000 cubic yards of earth excavation.
425 cubic yards of rock excavation.
1,900 lin. ft. 50-in. brick and concrete flat-topped sewer.
675 lin. ft. 33-in. sewer.
1,250 lin. ft. 27-in. sewer.
420 lin. ft. house connections.
12 tons cast iron pipe and specials.
28,000 lbs. of reinforcing steel.

The successful bidder on this contract will be required to give bond and comply with the City Charter respecting contracts.

The Board of Awards reserves the right to reject any and all bids.

By order of the Sewerage Commission.

CHARLES ENGLAND,
Chairman.HARRY W. RODGERS,
Secretary.

Approved: December 23, 1914.

JOHN HUBERT,
Acting President, Board of Awards.

Bids for Removal and Disposal of Dead Animals

Sealed proposals will be received by the Committee on Public Works of the Board of Bond Trustees of the City of Jacksonville until 8 o'clock P. M. on Monday, January 11, 1915, for the removal and disposal of dead animals and refuse from the markets in such manner, to be clearly defined by the bidder in his proposal, as to be least offensive to the citizens of the city. The successful bidder will be required to give a surety bond acceptable to the Committee, payable to the City, in the sum of \$1000, guaranteeing the faithful performance of the contract, and a certified check in the sum of \$500, payable to S. C. Harrison, Jr., Chairman, must accompany each bid as a guarantee that the bidder will, if awarded the contract, promptly enter into agreement to do the work and furnish the required bond. For further information, if desired, apply to L. D. Smoot, Commissioner of Public Works, Jacksonville, Florida. Envelopes containing bids should be so marked and should be addressed to the Chairman of the Committee. The Committee reserves the right to reject any or all bids.

S. C. HARRISON, JR.,
Chairman, Committee on Public Works.
December 12, 1914.

Continued from page 70.

struction. The sanatorium site will be given free to any one constructing a concrete building of sufficient size and importance to justify the free gift.

U. T. Hungerford Brass & Copper Co. in New Home.

The U. T. Hungerford Brass & Copper Co. has removed to its new 16-story fireproof building, Lafayette, Franklin and White Sts., New York, erected especially to accommodate its large stock of "Star Brand" brass and copper products. The building is equipped with modern devices to facilitate the handling of its heavy stock. The Hungerford company states that the removal from its former quarters was made necessary by the acquisition of the property by the city for the proposed courthouse, together with its constantly-expanding business, which requires a building of unusual stability and size to house brass and copper material and other metals, approximating 5,000,000 pounds.

Pumping Irrigation System for 6000 Acres.

The G. Bedell Moore estate at Del Rio, Tex., through Alexander Potter, consulting and constructing engineer, 50 Church St., New York, has prepared a report on the installation of a pumping irrigation project to cost \$60,000. The Humphrey gas pump, manufactured by the Humphrey Gas Pump Co. of Syracuse, N. Y., and the Akerlund gas producer were recommended. The installation consists of a Humphrey gas pump capable of delivering 67 cubic feet per minute against a head of 37 feet, sufficient to irrigate 6000 acres. The pumping station will be located upon the banks of the Rio Grande River, and will produce 25,000 gallons per minute against a static head of 37 feet. A reinforced concrete surge tank, 38 feet long and 12 feet wide, will also be provided.

Non-Combustible Warehouse for Tobacco.

F. J. Manley, architect and engineer of Lexington, Ky., successor to H. L. Rowe, architect, writes to the Manufacturers Record: "I notice a great deal about a storage warehouse for cotton. The writer has developed a storage warehouse for the storage of hoghead tobacco that has been used throughout the tobacco district a great deal. It is economical, and in itself non-combustible. It is a combination of a light steel frame with corrugated galvanized iron roof and sides, with the sides so arranged that a stream from a fire hose can be played anywhere on the building without going inside. I have secured very low figures on these buildings from manufacturers, owing to duplicating them some twenty times, and anyone interested in this sort of construction I would be pleased to correspond with. I enjoy reading your magazine, and believe if every paper and magazine would adopt the optimistic line that you use, we would forget about business depression."

Virginia Mineral, Coal and Timber Land for Sale.

A 99-year lease of the Catawba Coal & Iron Co.'s Catawba Furnace property, situate on the eastern slope of Catawba or North Mountain, and lying on the waters of Catawba Creek in Botetourt and Roanoke counties, Virginia, will be sold at public auction at noon January 20, 1915, at the County Courthouse of Botetourt, Fincastle, Va. The property comprises about 6000 acres, and is said to contain deposits of brown hematite iron ore and limestone and seams of semi-anthracite coal of fine quality, with portion of the property well timbered. Several charcoal blast furnaces were formerly operated on this property and used the ore in former years, and the coal has been worked for many years and used locally. Information as to the property, with requirements as to royalties, etc., can be obtained at the office of Jackson & Henson, First National Bank Bldg., Roanoke, Va.

Activities of R. C. Hoffman & Co., Incorporated.

R. C. Hoffman & Co., Inc., of Baltimore, for more than 50 years iron and steel merchants and representatives of leading houses, have opened a new department and will handle some special lines of contractors' equipment, with complete outfit for quarries and pulverizing plants. This company has taken the Southern agency of the Municipal Engineering & Contracting Co. of Chicago for its Austin cube mixer. This machine was used on the work on the Panama Canal, the Los Angeles viaduct and many

other large construction projects. Hoffman & Co., Inc., is also the Southern representative for the Wheeling Mold & Foundry Co. of Wheeling, W. Va., which manufactures complete crushers, pulverizers, screens, bins, road rollers and steel castings of every description. The Wheeling company also manufactures special machinery for power plants, hydraulic work, etc., having furnished machinery for the Panama Canal locks. In addition to these new accounts, the Hoffman company has arranged for connections in its territory for pumps, metal culverts and small engines.

Active Sales of Ames Engine in the South.

Among power-plant equipment now being installed by the Ames Iron Works, manufacturer of engines and boilers, of Atlanta, Ga., the following Southern contracts are under execution: One 200-horse-power Ames four-valve engine, direct connected to 125 K. W. Allis-Chalmers alternator, manufactured by the Allis-Chalmers Manufacturing Co. of Milwaukee, Wis., for the city of Rockmart, Ga.; one Ames automatic engine driving 30 K. V. A. alternator of the General Electric Co., Schenectady, N. Y., for the Citronelle (Ala.) Public Service Corporation; one Ames automatic engine, direct connected to Westinghouse generator, manufactured by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., for the Puritan Apartments, Louisville, Ky.; one Ames four-valve engine, direct connected to 125 K. V. A. Allis-Chalmers alternator, for the Axton-Fisher Tobacco Co., Louisville, Ky.; one Chase four-valve engine, direct connected to a General Electric alternator, two 125-horse-power boilers and equipment, for the city of Pulaski, Tenn.; and one Ames automatic engine, direct connected to General Electric alternator, for the city of Luverne, Ala.

To Install Extensive Private Telephone System.

The relation of the telephone to efficiency in the management of the industrial plant has become so well understood that there is an ever-increasing number of such plants using the telephone for expediting the carrying on of business routine. In recognition of this fact, the J. I. Case Threshing Machine Co. of Racine, Wis., has closed a contract with the Western Electric Co., 463 West St., New York, for a complete private telephone system, covering its exceedingly large plant, the principal buildings of which are about half a mile apart. In order to serve the organization in the most satisfactory manner, two switchboard equipments are to be installed. The switchboards, which will be of the Western Electric No. 1261 central battery private exchange type, will each have an initial equipment of 80 lines, with capacity for additional lines to take care of future growth. Complete power plant, ringing, terminal and protective equipment will be used in connection with each switchboard. Lead-covered cable will be used for the main distributing lines and twisted pair telephone wire for the wiring from the distributing points to telephone instruments. Three thousand feet of 25 pair and 12,300 feet of 50 pair cable will be installed. There will be outside distributing points on the grounds, at which cable terminals will be located. Loud ringing bells will be placed at various points inside and outside of buildings to call officials to the nearest telephone. These bells can also be used to sound alarms.

TRADE LITERATURE.

Mica Schist Furnace Lining.

Mica Schist lining or fire stone, mined by the J. W. Paxson Company, 1021 N. Delaware Ave., Philadelphia, is described and illustrated in a bulletin issued by the company. Mica Schist, which is said to be a natural fire brick, is used for lining Bessemer steel converters, cupolas, lime and cement kilns, and furnaces of all kinds, and is manufactured in the form of cupola blocks, furnace bricks, silica bricks, fire mortar, etc. The company states ground Mica Schist is carried in stock for shipment in barrels, wagonloads and carloads.

Atlantic Terra-Cotta.

In the December number of "Atlantic Terra-Cotta," issued monthly by the Atlantic Terra-Cotta Co., 1170 Broadway, New York, a wide distribution of the company's products is indicated. Illustrations of buildings in Winnipeg, Regina, San Francisco and New York utilizing Atlantic terra-cotta in their construction are contained in the publication. Many agencies of the Atlantic Terra-Cotta Co. are located throughout the country, and a Southern branch, known as

the Atlanta Terra-Cotta Co., is at 514 Third National Bank Bldg., Atlanta, Ga., with works at East Point, six miles distant.

Hydrated Lime in Cement Work.

An abstract of current technical literature, entitled "Concrete Pointers," published in the interest of cement users by the Security Cement & Lime Co. of Hagerstown, Md., contains in its No. 2 edition an exposition on the use of hydrated lime in cement mortar and concrete work. The use of hydrated lime for waterproofing concrete, hydrated lime in cement mortars, the effect of hydrated lime in lubricating concrete, use of hydrated lime in concrete works, the effects of hydrated lime on the strength of cement mortar in concrete, etc., are among the subjects treated in "Concrete Pointers No. 3."

Dixon's Boiler Graphite.

A novel mailing card, in the form of a barrel, is the way the Joseph Dixon Crucible Co. of Jersey City, N. J., is introducing Dixon's boiler graphite to engineers and others interested in cleaner boilers. The card is printed in two colors, and on the inside calls attention to the fact that for nearly fourscore and ten years the company has had at its command all forms and grades of graphite, and therefore has no incentive to use or recommend other than the correct grade of Dixon's boiler graphite. The use of this graphite is said to reduce fuel consumption, prevent the hardening of scale, give to the surface of the boilers a

smooth polish, prevent pitting and make the removal of scale easy by a gentle mechanical action. The reverse fold forms a return card bearing an invitation to write for the Dixon booklet, "Graphite for the Boiler."

Calendars for 1915.

Many beautiful and useful calendars for 1915 are now being distributed by the following companies: The Clinchfield Fuel Co. of Spartanburg, S. C., issues a large wall calendar of 12 pages with two-inch figures representing the days of the month on the lower half of each sheet, the upper half containing calendars of the preceding month and month in advance, making it a desirable office calendar; another 12-page wall calendar with the days of the month in large figures, containing calendars of the preceding and advance months on the same sheet, is issued by J. C. Steel & Sons, manufacturers of brick machinery, Statesville, N. C.; The Draper Co. of Hopedale, Mass., manufacturer of cotton-mill machinery, has issued a 6x9-inch wall calendar; a calendar showing the picture of a beautiful girl, entitled "In the Garden of Dreams," is issued by the Morris Machine Works of Baldwinville, N. Y.; a 24x24-inch wall calendar with large clear-cut figures is issued by the Flat-Top Fuel Co., coal and coke producers of Bluefield, W. Va.; the Monongahela River Consolidation Coal & Coke Co., 325 Carondelet St., New Orleans, issues a 20x26-inch wall calendar, and a small 3x6-inch calendar for desk use is issued by Wm. C. Robinson & Son Company, lubricating oils, Baltimore, Md.

FLOUR MILL FOR SALE



Located in the heart of the Shenandoah Valley, having a capacity of ninety barrels per day. This is a modern three-story building with metal roof; feed mill in separate room; all feed bins are separate from the main mill; a good flour room attached having storage capacity of 15,000 bushels.



The corn mill consists of a feed mill, corn crusher, new mill for meal with new bolters and crack-corn bolter.

This is a water-power mill, with two eighty-horse-power wheels, all machinery practically new.

An excellent three-room office, also a dwelling-house, which is in good condition. All outbuildings are in good repair.

The main buildings are wired and lighted with electricity furnished by plant owned by Company.

For particulars write
F. H. LA BAUME, Agr'l and Ind'l Agent, Norfolk & Western Railway, Roanoke, Virginia, Referring to File M-5826.

SAMUEL T. FREEMAN & COMPANY AUCTIONEERS

1519-21 Chestnut Street, Philadelphia, Pa.

Peremptory Liquidation Sale

Valuable New Machine Tools and Equipment

The Entire Stock of the

C. C. Wormer Machinery Company

Nos. 97-101 Woodbridge Street, West, Detroit, Mich.

Tuesday, Wednesday & Thursday, Jan. 19, 20 & 21, 1915

at 10 A. M. each day on the premises

The sale comprises the entire stock of the well-known machinery and equipment house of the C. C. Wormer Machinery Company, which consists of high-speed Machine Tools for Iron and Wood-working, Shafting, Hangers, Pulleys, Chucks, High-speed Steel Small Tools, etc.

By Order of THE UNION TRUST COMPANY OF DETROIT

Catalogues Mailed upon Application to

SAMUEL T. FREEMAN & COMPANY, Auctioneers
1519-21 Chestnut Street, Philadelphia, Pa.

Special Advertisements of General Interest.

Your chance to open up a new market for your goods in SOUTH AMERICA

If interested, write at once to

FRIEDR. W. LUTZ RICHMOND, VA.
Personal Representatives in Brazil and the Argentine Republic.

Yarn Spinning Plant

FOR SALE—COMPLETE

of 7336 spindles, consisting of 2416 mule spindles and 4920 ring spindles, with necessary cards, combers, intermediates, fly frames, skein and canless cone winders and every necessary adjunct to a complete spinning plant. It is located in a city of 30,000 population, with plenty of experienced help.

If desirous of moving the plant, it will be sold per spindle with everything that goes with it at a low price.

For particulars address

TROY KNITTING CO.
432 River Street TROY, N. Y.

ICE PLANT

For Sale

Ice plant, 25-ton absorption machine. Capacity could be increased to 30 tons easily. Concrete building, fireproof. Fine water supply; very economical. Completed eighteen months. Situated on Florida coast; fine harbor; railroad to interior; several towns on Bay. Accessible to quantities of fish. Opportunity for greater development of fish business. Splendid chance for investment. Good reason for selling. Terms if desired.

A. C. SMITH

Care Manufacturers Record, Balto., Md.

FOR RENT WITH POWER

64 Crompton & Knowles Looms, 82-inch reed space, 4x4 box, 25 harness. Also dressing and winding for same; room 60x20.

BELLEVUE WORSTED MILLS
GERMANTOWN PHILADELPHIA, PA.

George L. Wetzel & Co. URUGUAYANA, BRAZIL

offer their services to all American firms desirous of introducing their products into south Brazil.

Information given concerning banking facilities, customs duties, transportation and packing. Translation and distribution of trade literature. Correspondence solicited. Send us your samples and catalogues, your prices and discounts. A B C Code. Personal reference, F. L. Petty, 1522 Michigan Boulevard Bldg., Chicago.

An Eight-Set Knitting Mill FOR SALE

which last year produced 500 doz. of fleeces daily, ready to start right up on cheap goods. With the property is 100 reliable horse-power of water and 200 horse-power of steam. Can be started at once as the machinery is in good condition for cheap goods. To parties interested arrangements can be made for about two-thirds of the capital, which will be invested by the old owners. A good opportunity for live parties to manufacture knit goods. For particulars address

TROY KNITTING CO.
432 River Street TROY, N. Y.

ENGLAND Will Welcome From AMERICA Any of Her Specialties to Replace Those from GERMANY

Send immediately illustrated particulars, with terms for sole representation in Great Britain, to

G. F. RAPKIN

17, 18, 19 & 20 West Smithfield, London, Eng.
(Highest American References Given)

Modern Electric Light, Waterworks and Ice Plant For Sale

Located in a live town in Alabama, about 2500 population, Queen & Crescent Railroad tracks running directly by plant. Good artesian water supply.

A bargain on easy terms to an experienced man with a few thousand dollars. Full particulars, write

WILLIAM SEARS, Pres., Eutaw, Alabama

SANTA ANNA, TEXAS

Has the most complete natural-gas system in the entire Southwest. Splendid water system. Glass sand assaying 99.53% silica. The best limestone in the State. Fire and brick shales. Large and splendid agricultural trade territory. Oil and gas field developing. Large distributing territory. We invite capital to fully investigate our opportunities.

FRED W. TURNER, Sec., Santa Anna Commercial Club

SPECIAL MASTER'S SALE OF VALUABLE MINERAL, COAL AND TIMBER LAND, SITUATED ON CATAWBA CREEK IN ROANOKE & BOTETOURT COUNTIES, VIRGINIA

By virtue of authority vested in the undersigned, R. C. Jackson, a Special Master, by a decree entered on the 4th day of December, 1914, by the United States District Court for the Western District of Virginia, in re Catawba Coal & Iron Company, Inc., Bankrupt, the undersigned will, on Wednesday, the 20th day of January, 1915, at 12 o'clock A. M., at the front door of the County Courthouse of Botetourt County, Virginia, proceed to sell at public auction to the highest bidder the following property:

A 99-year lease on a certain tract of land lying on the waters of Catawba Creek, in the counties of Botetourt and Roanoke, Virginia, containing about 6000 acres, more or less, and known as the Catawba Furnace property; the said lease being the same lease purchased by the Catawba Coal & Iron Company from James Brander Mathews, Peter T. Barlow and Florence Hallett Mathews, and which said property, together with rights, interests, reservations, exceptions, etc., is more particularly mentioned and described in an indenture of lease entered into on the 29th day of May, 1908, between James Brander Mathews and others and the Catawba Coal & Iron Company, Inc., recorded

in Deed Book "D," pages 406 et seq., in the Clerk's office of Botetourt County.

The above-mentioned property lies on the southeastern slope of the Catawba or North Mountain for a length of about 41 miles, and contains large and valuable deposits of brown hematite iron ore and limestone and seams of semi-anthracite coal of fine quality, and portions of the property are well timbered.

Several Charcoal Blast Furnaces have been erected on the property and used the ore in former years, and the coal has been worked for many years and used locally.

Information as to the property with requirements as to royalties, etc., can be obtained at the office of Jackson & Henson, First National Bank Bldg., Roanoke, Virginia.

TERMS: Cash \$6000, and on equal credits of six, twelve and eighteen months as to the balance, the credit installments to bear interest at six per cent. per annum from date of sale until payment, and to be evidenced by notes of the purchaser with good security approved by Special Master, and title withheld until purchase price be paid in full.

R. C. JACKSON, Special Master.

COMMISSIONER'S SALE

— OF —

Valuable Pocahontas Coal Mine

By virtue of a decree entered on the 27th day of October, 1914, by the United States District Court for the Western District of Virginia, in the consolidated causes pending in said Court, styled Thomas T. Boswell et al., Complainants, against Big Vein Pocahontas Coal Company et al., Defendants, and Colonial Trust Company, Trustee, etc., Complainants, against Big Vein Pocahontas Coal Company, Defendant.

I, the undersigned Commissioner named in said decree for the purpose, will sell at public auction the property hereinafter described, at or in front of the **Commissionary Store of the Big Vein Pocahontas Coal Company**, situated on the premises held by said Coal Company under lease from Ollie H. Browning and others, lying in the Clear Fork Magisterial District of Tazewell County, State of Virginia, about one mile from the Town of Pocahontas, on the 31st day of December, 1914, at 11 o'clock A. M. of that day, all of the leasehold estate and property of said Big Vein Pocahontas Coal Company.

The said property will be sold in three parcels, each parcel as a whole, and said parcels will be sold in the order hereinbelow named, and consist of the following-named items:

PARCEL NUMBER ONE.

Parcel Number One shall consist of the leasehold estate, as created by an agreement and lease dated the 12th day of March, 1909, by and between Ollie H. Browning and James S. Browning, her husband, and Jas. S. Browning, Jr., by his guardian, Ollie H. Browning, of the one part, and Thomas T. Boswell of the other part, which is of record in the Clerk's Office of Tazewell County, Virginia, to which records reference is made for further information; and the buildings and improvements erected on the same, and used in connection with or in the operation of the coal mine, including all power, fan, pump, store and miners' houses, office building, tipples, machinery, boilers, engines, generators, fans, pumps, motors, mine cars, rail in place and fixtures used in the operation of the mines on said premises, subject to the payment of royalties accruing and becoming payable subsequent to the day of sale, and to the performance of the other terms, provisions, covenants and agreements in said lease contained, and on the part of the lessee to be performed and discharged.

There shall be appurtenant to said Parcel No. 1, and constitute a part thereof, all the credits for unearned royalties of the defendant coal company and of the receivers of this said Court, which credits shall pass to and become the property of the purchaser or purchasers of said Parcel No. 1, upon the payment of the purchase money of the same and compliance with the other terms of sale.

A statement of the approximate amount thereof will be exhibited at the sale, and information concerning the same will be supplied on application to the undersigned.

The original area of coal-bearing land within the leased premises was approximately 330 acres, of which a considerable portion has been mined out, and other portions are unavailable for mining purposes. A map showing the mine workings can be inspected on application to the undersigned. The seam of coal has an average thickness over the property of 10 feet and 8 inches.

PARCEL NUMBER TWO.

Parcel No. 2 shall consist of all the stock of goods, wares and merchandise contained in the commissary store on said leased premises, the store and office fixtures of all kinds contained in said store, and in the office adjoining the same, on the day of sale.

PARCEL NUMBER THREE.

Parcel No. 3 shall consist of live stock, movable tools, the equipment of the blacksmith shop and repair shop, the stock of supplies and duplicate parts on hand for use and for repair of the machinery and equipment of the mining plants on said premises, all old iron and other detached and removable chattels in the possession of the receivers not included in Parcel No. 1 or Parcel No. 2.

Inventories of the items of property going to make up the aforesaid Parcels No. 2 and No. 3 will be exhibited at the sale.

Access to the property for purposes of inspection can be had by applying to the undersigned, who will give written authority, addressed to the Superintendent in charge of said mines. The said Superintendent has been instructed, however, not to permit the examination of the property without such written permission.

No bid shall be accepted by the Commissioner for Parcel No. 1 less than the sum of one hundred thousand dollars. Nor for parcel No. 2 for less than five thousand dollars. Nor shall any bid be accepted by the Commissioner for Parcel No. 1 unless the bidder or bidders shall immediately deposit with the Commissioner the sum of ten thousand dollars in cash or certified check as a deposit upon the purchase price thereof, and as a pledge that said bidder or bidders will make good his, their or its bid, if accepted and ratified by the Court; nor for Parcel No. 2 unless the bidder or bidders shall immediately deposit with the Commissioner the sum of five hundred dollars in like form, to be held upon like conditions; nor for Parcel No. 3 unless the bidder or bidders shall immediately deposit with the Commissioners the sum of five hundred dollars (\$500) in the like form, to be held upon like condition.

Each of said parcels shall be offered as a whole and not otherwise.

All said property shall be sold free, clear and discharged of all claims and demands of the parties to the above entitled causes, and both of them, and all persons and bodies corporate claiming and to claim by, through or under them or any of them, except that Parcel No. 1 shall be subject to the payment of royalties and the performance of the other covenants, agreements and conditions hereinbefore mentioned and referred to.

The Court reserves the right to reject any bid and to re-sell said parcels, or any one of them, upon the failure of any purchaser or purchasers for thirty days to comply with any order of court requiring payment of any unpaid portion of the purchase price of the property sold to him or them.

TERMS.

The terms of the sale shall be one-third of the total bid, less the deposit made at the time of sale, in cash on the ratification of the sale, and one-third in one year, and one-third in two years thereafter; the deferred payments to bear interest at the rate of six per centum per annum, to be evidenced by the notes of the purchaser, payable to such person as the Court may direct at the time of ratification, and to be secured to the satisfaction of the Court, or all cash, at the option of the respective purchaser or purchasers.

In case Parcel No. 1 be purchased by any holder of the bonds of the defendant coal company, he shall have the option and right to make payment for said Parcel No. 1 in the said bonds or coupons, or both. Any such bonds and the coupons thereon shall be receivable in payment as cash for the amount of such dividend or distribution as will be payable upon the same out of the proceeds of the sale of Parcel No. 1.

Under authority of an order of Court entered March 31, 1914, the Receivers of said property were authorized to enter into contract or contracts for the sale of slack coal produced from said mines, and it is by the decree of sale provided that the property shall be sold subject thereto, that is to say, the purchaser shall be bound to carry out, and shall be entitled to the benefit of, any and all such contracts from and after the day of sale. The Receivers have entered into a contract for the sale and delivery of slack during the year ending March 31, 1915. Due and proper information concerning said contract will be supplied to any prospective purchaser.

Further information will be cheerfully furnished by the undersigned.

GEO. W. ST. CLAIR, Commissioner,
Tazewell, Virginia.

November 4, 1914.

Bargains in Machinery and Supplies.

BOILERS

2 95 H. P. Heine, 150 lbs. pressure.
2 180 H. P. Heine, 125 lbs. pressure.
2 250 H. P. Heine, 160 lbs. pressure.
2 300 H. P. Edgemoor, 175 lbs. pressure.
2 345 H. P. Heine, 200 lbs. marine casing.
2 350 H. P. Heine, 150 lbs. pressure.
2 508 H. P. B. & W., 175 lbs. pressure.
HAROLD R. WILSON MACHINERY CO.
419 Pine St. Other Sizes St. Louis, Mo.

FOR SALE

PIPE

Second-Hand

All Sizes, 1/8" to 24"

Furnished with new threads and couplings, suitable for every practical purpose.

Also large assortment of Contractors' Equipment, Hoisting Engines, Bidders, Concrete Mixers, etc.; all thoroughly overhauled.

Marine Metal & Supply Co.
167 South St. NEW YORK

FOR SALE

PIPE NEW & SECOND HAND

Furnished with Threads and Couplings.
Suitable for All Practical Purposes

All Sizes In Stock Ready for Shipment

Send us your inquiries and get our prices. It will interest you.

Eagle Pipe Supply Company, Inc.
29 Howard Street N. Y. C.

PIPE WANTED

1200 feet of 8-inch cast or wrought iron; 3000 feet of 6-inch cast or wrought iron; 5000 feet of 3-inch pipe; 5000 feet of 2-inch pipe; 10,000 feet of 1-inch pipe.

The above may be new or second-hand pipe and delivered at Griffin, Ga.

R. W. LANDMESSER
Box 222 GRIFFIN, GA.

PIPE

FOR ALL PURPOSES

Slightly used Pipe from 1" to 12" with new threads and couplings. Thoroughly overhauled and tested before shipping.

We can save you money

Jos. Greenspon's Sons Iron & Steel Co.
St. Louis, Mo.

Tampa Machinery Exchange
TAMPA, FLA.

Buy, Sell and Exchange Machinery of All Kinds

WRITE US YOUR WANTS

BUSINESS OPPORTUNITIES EVERY WEEK

Do you read the Business Opportunities in the Classified Opportunities Section every week? Get the habit of looking for this department every Thursday; it may mean money for you.

MANUFACTURERS RECORD

BIG SNAP

250 tons U. S. Sheet Steel Piling, splendid condition, good as new, size 12-inch, weight 40 lbs. per foot, lengths up to 40 feet. Ready for quick shipment. Our low price on this material saves you big money. Write today.

Harris Brothers Company, Owners

CHICAGO HOUSE WRECKING CO.
35th and Iron Sts. CHICAGO, ILL.

D. C. UNITS—250 Volts

K.W. Make. Volts. Engine.
1000 We. El. 250 30 & 60x48 F & S V.C.C. Cor.
400 Ft. Way. 250 24x27 Buckeye B. H.
300 Westg. 3-Wire 10 & 32x24 Ridg'y H. O. C. Cor.
200 Westg. 3-Wire 17 & 28x20 Ridg'y H.T.C.
150 Westg. 3-Wire 13 & 25x24 Erie City T. C.
100 Westg. 3-Wire 12 & 20x16 Ridg'y T. C.
Also A. C. Units, Engines, Boilers, Motors, Etc.
HAROLD R. WILSON MACHINERY CO.
419 Pine St. Other Sizes St. Louis, Mo.

CASKS FOR SALE

Heavy, well-made iron-bound casks, 43" diameter middle, 38" diameter ends, 42" high, 1 1/4" thick, in sound condition, with both heads in. Sold singly or in car lots.

N. & G. TAYLOR CO.

Third and Chestnut Sts. Philadelphia, Pa.

FOR SALE

One 10-ton Frick Ice-Making Machine

Two 50-H.-P. Return Tubular Boilers, with new smokestack

Horizontal Slide Valve Engine

Two Boiler Feed Pumps (duplex)

Two Brine Pumps (duplex)

Ammonia and Steam Condensers

6-ton Ice Tank

All necessary piping in good condition.

For further information, apply to

CARROLL TAYLOR

Box 673

RICHMOND, VA.

ENGINE FOR SALE

Wright compound tandem, 450 h.p., 24x42x36. Flywheel 16" diameter, 42" face. In good condition.

STANDARD ASSETS CO.

43 Cedar Street NEW YORK

Direct Current Dynamo and Switchboard

FOR SALE

One Westinghouse Dynamo, 1100 R. P. M., 12 1/2 K. W., 500 lights, 125 volts, with pulley, slide rails, slate switchboard, amper meter, volt meter, circuit breaker, field rheostat, main switch and 4 circuit switches. Condition perfect and price low.

HOLMES ELECTRIC COMPANY
16 Market Place Baltimore, Md.

AT A BARGAIN

3 Lidgerwood Hoisting Engines, cylinders 8 1/4x10, D. D., D. C., first-class condition.

1 Wetherall Twin Corlias Engine cylinders 20x42, first-class condition.

2 5" Worthington Turbine Pumps, D. C. to 85 H. P. motors.

Plants Bought and Dismantled

BOSTON IRON & METAL CO.
Pratt St., BALTIMORE, MD.

BOILERS

3 150 H. P. High-Pressure Boilers.
1 125 H. P. High-Pressure Boiler.
1 100 H. P. High-Pressure Boiler.
1 125 H. P. Skid Boiler.
5 100 H. P. Standard Boilers.
2 80 H. P. Standard Boilers.
2 50 H. P. Standard Boilers.
2 45 H. P. Standard Boilers.
4 40 H. P. Vertical Boilers.
1 35 H. P. Vertical Boiler.
2 25 H. P. Vertical Boilers.
8 20 H. P. Vertical Boilers.
1 42"x72" No. 8 Steel Smokestack, good as new.

Also Pumps, Pipe, Fittings, Gas Engines and Hoists

Bailey & James Boiler & Machy. Co.

512-516 Grand Ave. JOPLIN, MO.

FOR SALE—3-PHASE 60-CYCLE 220 OR 440 V. A. C. GENERATORS.

K.V.A. Speed.
1 42 Elec. Mach. Co., revolv. field.....1200
1 45 Westinghouse, revolv. arm't.....900
1 50 Gen. Elec., ATB, revolv. field.....1200
1 65 Allis-Chalmers, revolv. field, direct con. to Ames engine (new).....275
1 115 Allis-Chalmers, revolv. field.....900
1 125 Fairbanks-Morse, revolv. field.....900
1 200 Western Elec., revolv. field.....450
1 300 Gen. Elec., ATB, revolv. field.....600
Now is the time to pick up bargains. Send for our "Monthly Bargain Sheet," showing complete stock with net prices. We make a specialty of second-hand electrical machinery—motors and generators. Completely overhauled "like new."
Motors and generators rented. We will rent any machine in our stock.

GREGORY ELECTRIC CO.

16th and Lincoln Sts. Chicago, Ill.

Boring and Drilling Machine

FOR SALE

One Binsse style C-4 horizontal boring and drilling machine, complete with counter-shaft, wrenches and facing attachment. Attention is called to the large range of this machine; the bar is 3 1/4" diameter, and has feed, without resetting, of 30". Greatest distance from bar center to carriage is 24 1/2", thereby allowing work 49" in diameter. Can be used as a drilling, boring, facing and milling machine. In perfect condition, used not more than once or twice. Potomac Electric Power Company, Purchasing Department, 213 14th Street, Washington, D. C.

Like New for Service

1 24"x30" Blandy Slide-Valve Engine.....\$1250.00
1 24x30" Filer & Stowell Engine.....1250.00
1 No. 3 Wickes Sash Gang.....1250.00
2 125 H. P. 100-lb. H. A. Boilers, each.. 400.00
2 125 H. P. 125-lb. H. A. Boilers, each.. 450.00
2 150 H. P. 100-lb. H. A. Boilers, each.. 450.00
1 150 H. P. 125-lb. H. A. Boiler.....500.00
\$400,000.00 worth of good machinery of all kinds at wrecking prices. We buy, sell, exchange, repair, rebuild and appraise.

SOUTHERN MACHINERY EXCHANGE

Bisbee Bldg. Jacksonville, Fla.

ESTIMATES WANTED

on manufacturing a new and simple lawn mower—the cycle blade type. Will sell patent rights for United States and Canada. Demand already created wherever displayed. Can be sold for price of the revolving kind. Photo on request.

BOYDSTON MOWER CO. Natchitoches, La.

You Can Save 50%

IN THE PURCHASE OF A-APPARATUS SPECIALS

400 K. W. Westinghouse-Parsons 60-cycle, 2 or 3-phase, 440-volt, with condenser.
300 H. P. Smith, type E, Gas Producer Plant, complete.
PAUL STEWART & CO. CINCINNATI, O.

A. C. UNITS 3 PHASE 60 CYCLES

K.W. Make. Volts Rev. Engine.
300 Westg. 440 3500 H. P. Westg. St. Turb.
4 400 Westg. 2300-440 3500 H. P. Westg. St. Turb.
3 500 Westg. 2300-440 3500 H. P. Westg. St. Turb.
1000 Westg. Any 1800 Low-pressure Turb.
1000 Ge. El. Any 1800 Mix.-press. Curtis.
2 1000 Westg. Any 1800 H. P. Westg. St. Turb.
Also D. C. Units, Boilers, Engines, Etc.
HAROLD R. WILSON MACHINERY CO.
419 Pine St. Other Sizes St. Louis, Mo.

Skeleton Hoisting Engines

Used engines in good operative condition—ready for immediate delivery.

1 10"x12" D. C. D. D. "Flory."
2 8 1/4"x10" D. C. D. D., with swinglers, "Rawson & Morrison."
2 8 1/4"x10" D. C. D. D., with swinglers, "Lidgerwood."

We also have a large number of engines with boilers attached, rated from 10 to 50 H. P. If interested in the purchase of steam or electric power equipment, iron or wood-working machinery or contractors' equipment, write us. We have a large stock ready for immediate delivery.

L. F. SEYFERT'S SONS, Inc.

437 North Third St. Philadelphia

WIRE ROPE

We have accumulated a stock of wire rope that we offer at bargain prices. The lengths run from 80 to 3000 feet, from 3/4 to 1 1/2 inches diameter. These are new ropes and perfectly good for a variety of purposes, but are of construction different from our regular stock ropes. It will pay you to get a list of these with our prices.

Broderick & Bascom Rope Co.

805 N. Main St. ST. LOUIS, MO.

FOR SALE

One 85-ton American Linde Refrigerating Machine

Two 125-H.-P. Return Tubular Boilers, with breeching

One 40-ton Metal Ice Tank, with 300-lb. cans for same

Ammonia Condensers, re-boiler and filters

One deep well pump, 36-in. stroke

One Agitating Engine

All the above in first-class order and practically new.

For further information, apply to

CARROLL TAYLOR

Box 673

RICHMOND, VA.

USED MOTOR CARS AND TRUCKS

ASK FOR LATEST LIST TODAY

MAR-DEL MOBILE CO.

BALTIMORE, MD.

REFERENCES—BROADSTREET DR. DUN.

Bargains in Machinery and Supplies.

In replacing our manufacturing equipment we find the following first-class

Used Machine Tools

which we offer at attractive prices

18"x6" Reed.
17"x6" Gray.
20"x8" Lodge & Shipley, Q. C. G.
20"x10" Lodge & Shipley, Q. C. G.
20"x12" Lodge & Shipley, Q. C. G.
24"x8" Lodge & Shipley, Q. C. G.

SPECIAL LATHES

No. 3 Lodge & Shipley Rapid Reduction Lathe.
24"x7" Lodge & Shipley Chucking Lathe.
14"x8" Towsley Speed Lathe.
18"x8" Lodge & Shipley Single Pulley Driven Lathes.

METAL SAWS

Globe Power Hack Saw, 8" capacity.

MISCELLANEOUS MACHINES

One Marion Double Grinder.
One Marion Double Grinder on stand.
One Diamond Combination Grinding and Polishing Stand on column.
One Sturtevant Blower, diameter of outlet 25".
One "Ohio Planer" 24"x24"x12", with two heads on cross rail.
Universal Swivel Table for Radial Drill.
Brown & Sharp Grindstone Frame for 5"x36" stone.
One Mueller Grindstone Frame for 4"x37" stone.
One 12"x40" Mumford Molding Machine.
Write for complete description with prices of machines in which you are interested.

The Lodge & Shipley Machine Tool Co.

CINCINNATI, OHIO

FOR SALE

Alternating Current Generators

DIRECT CONNECTED TO GAS ENGINES

2 50 K. W. each 3-phase 60-cycle 220-volt Alternators, direct connected to Westinghouse Vertical 3-cylinder Gas Engines.

1 100 K. W. 60-cycle 3-phase 220-volt Alternator, direct connected to Duplex Tandem Alberger Gas Engine.

These outfits are in first-class operating condition and will be sold very cheap to quick buyers before we remove them to our warehouse in Chicago.

Pfannmueller Engineering Co.

Suite 1733 First National Bank Bldg.

CHICAGO

Special Bargains in Sanders

1 42" 3-drum Perfection Sander, thoroughly overhauled.....\$350.00
1 48" 3-drum Thomas Sander.....\$400.00
1 48" 4-drum H. B. Smith Sander.....\$500.00
1 48" 3-drum Royal Invincible Sander, used only 3 weeks.....\$550.00
1 54" 3-drum J. A. Fay & Co., fine order.....\$500.00
1 60" 3-drum Columbia Sander in A-1 condition.....\$600.00

JOINTERS

1 20" Carrey Hand Jointer.....\$100.00
1 30" Buse Extra Heavy Hand Jointer.....\$125.00
Woodworking machinery of all kinds.
Write, stating your requirements.

CLEVELAND BELTING & MACH'RY CO.
1922 Scranton Road Cleveland, O.

FOR DEPENDABLE

Used Machine Tools

CONSULT

Prentiss Tool & Supply Co.
NEW YORK

Singer Building

FOR SALE

Boilers, Stationary Engines, Hoisting Engines, Pumps, new and second-hand, every size and for every duty.

HOWARD W. READ COMPANY

Third and Arch Sts. Philadelphia, Pa.

THERE IS A REASON

why our properly rebuilt Machinery gives satisfaction

ASK US

ENGINES, CORLISS: 26x48 Filer & Stowell, heavy duty; 24x48 Hamilton; 18x42 Lane & Bodley; 16x42 Allis; 14x42 Hamilton; 14x36 Nagle; 12x30 Hamilton; 10x30 Hamilton; 10x24 Hamilton.

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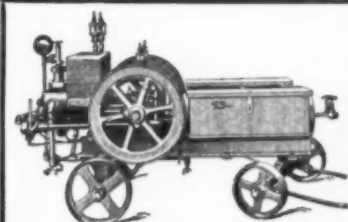
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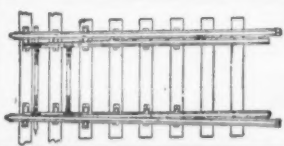
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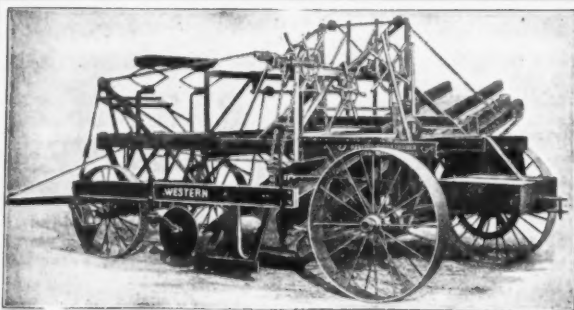
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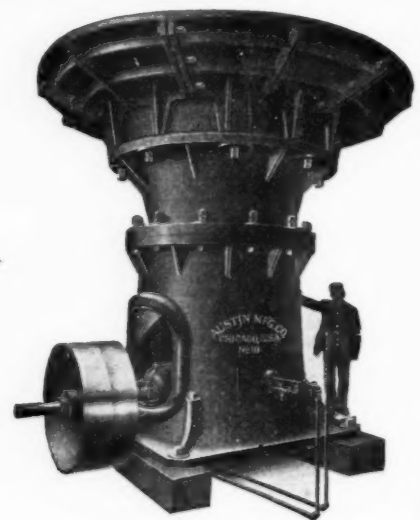
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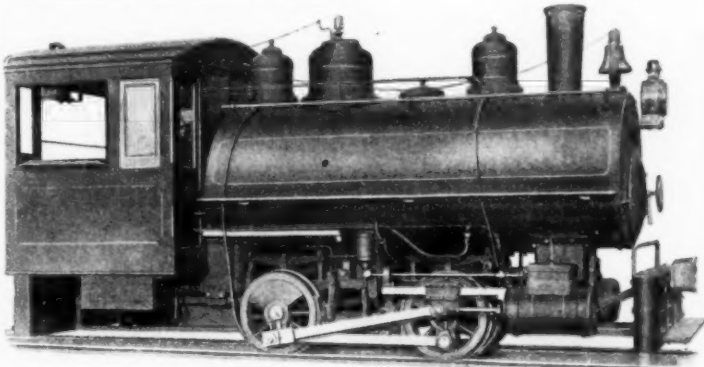
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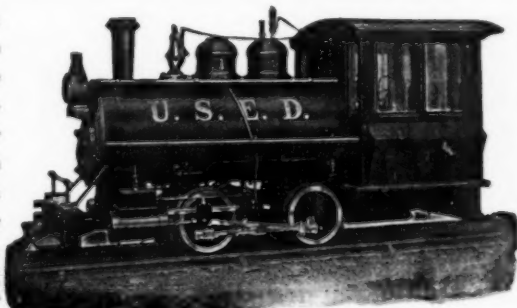
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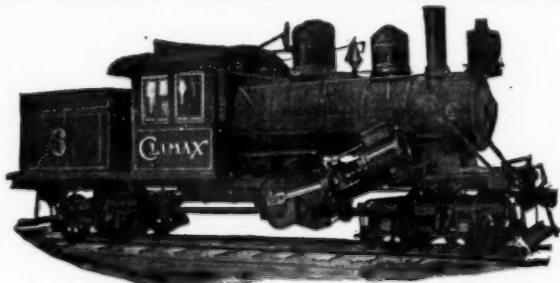
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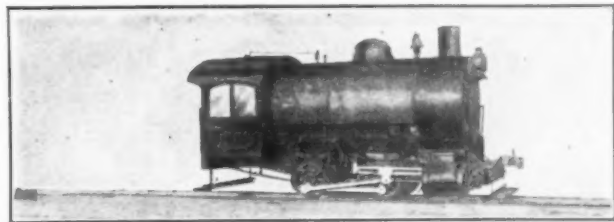
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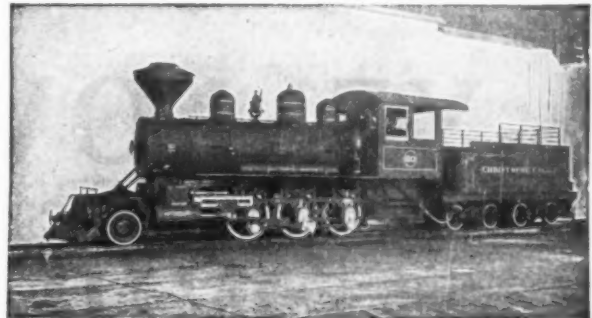
No fire used in locomotives. Cannot ignite anything. Steam pressure constantly decreasing. Cannot explode. Simple, Economical. Write for catalogue "O."

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"PORTER LOCOMOTIVES"



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For all Gauges of Track and Every Variety of Service, including Mine, Furnace, Lumber, Plantation, Industrial and Contractors' use. Locomotives 36" and 56 1/2" Gauge on Hand for Immediate Delivery.

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QUALITY—EFFICIENCY

Nitro-Glycerine Dynamite	Quarry Powder
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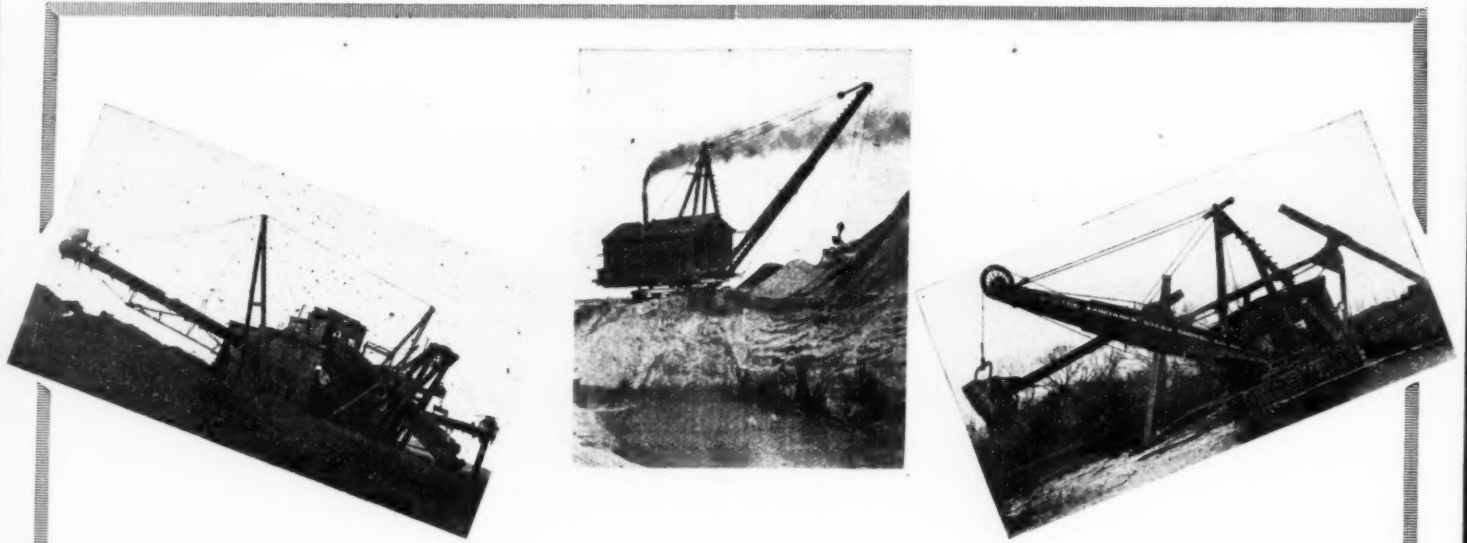
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The success of every blasting operation depends on the Quality and Efficiency of your explosive.

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POWERSTEEL

WIRE ROPE

Made in America

The one best rope for all work. On such big contracts as the building of the Panama Canal and Woolworth Building the best of material and equipment of all kinds were used. Contractors and Engineers with years of experience and with many successful undertakings to their credit were vitally interested in these two jobs. The responsibility of selecting the material and equipment was upon these men, and it is fitting we believe, to mention that "Yellow Strand" Powersteel Wire Rope was used on both, and with wonderful success.

On referring to any number of the big jobs and to the most successful and best known contractors you will find that "Yellow Strand" Powersteel Wire Rope is used and highly endorsed. For construction work of all kinds

and on dredges, derricks, locomotive cranes, and in fact everywhere that wire rope is to be used "Yellow Strand" Powersteel is invaluable.

"Yellow Strand" Powersteel is honest all the way through. Made of the best, carefully selected and tested material and by expert workmen. It is elastic, flexible, durable and will stand the strain of bending over blocks and small sheaves better than most wire ropes. Due to its great strength "Yellow Strand" Powersteel is the real "Safety First" Wire Rope.

We would like to tell you all of the advantages of "Yellow Strand" Powersteel, give you the endorsements of some of the most prominent contractors and tell you how to save both money and time by its use.

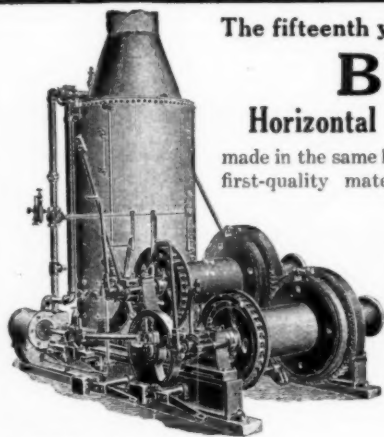
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Horizontal Type Hoisting Engine

made in the same high-grade way, and of the same first-quality materials as the BYERS Standard vertical type machines.

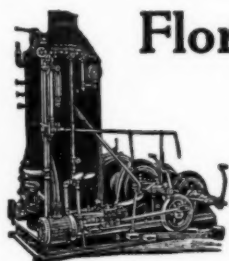
It is hard to improve on correct design, good materials and careful workmanship.

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Main Office and Works:
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Makers of Hoisting and Excavating Equipment, Derrick Fittings, Derrick Cars, Material Elevators, Etc.



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For Contractors, Bridge Building, Dredging, Cab'ways and General Hoisting Duty.

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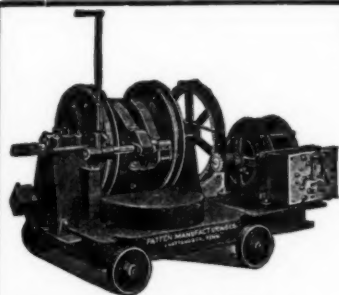
For Contractors, Bridge Builders, Dredging, and General Hoisting Duty.

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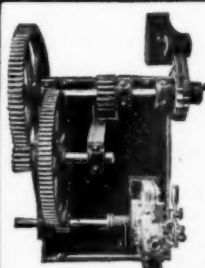


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Engineers; Builders of Green's Fuel Economizers, Fans, Blowers and Exhausters, Steam Air Heater Coils, Waste Heat Air Heaters, Mechanical Draft, Heating and Ventilating and Drying Apparatus, Draft Dampers and Engines.

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Hoisting Engines
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Drill Hoists
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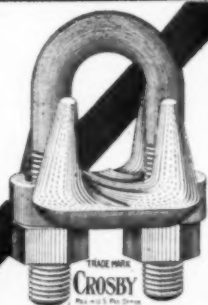
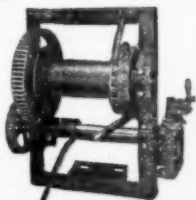
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(Single or Double Drum)

Spud Hoist
For raising and lowering
spuds on dredges

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Grand Haven, Mich.



For Safety's Sake use

"Crosby" Clips

The "CROSBY" Clip is a safety device and the value of a safety device is measured, not by its cost, but by what it will do. Three "CROSBY" Clips correctly put on will absolutely HOLD loads much in excess of the breaking strain of any rope.

The "CROSBY" Clip is drop forged from special analysis steel. Its powerful "U" bolt and massive curved, grooved base have tremendous gripping power. It cannot rust—it's galvanized.

A size for every rope.

AMERICAN HOIST & DERRICK CO.

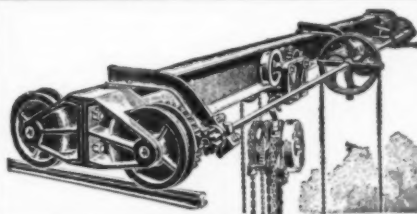
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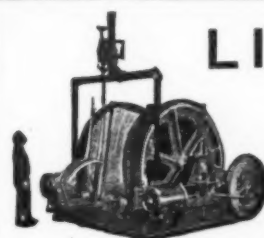


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TRAVELING
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SIMPLEX
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TROLLEYS AND
OVERHEAD TRAMWAYS

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LIDGERWOOD MINE HOISTS

Steam and Electric Hoists for Shafts, Inclines, Haulage, etc., of every style.

STEAM

Up to 1000 H. P.

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Any size

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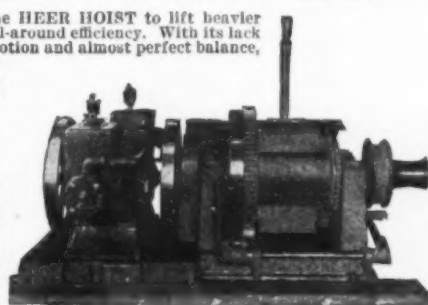
Reversing Mine Hoist with
low side stands

STEADY POWER

is the secret of the ability of the HEER HOIST to lift heavier loads and operate with greater all-around efficiency. With its lack of vibration, elimination of lost motion and almost perfect balance, the engine accomplishes more continuous work on each unit of power and there is less wear and tear on the engine and hoist.

THE HEER HOIST

is generally used by contractors in connection with double platform elevators. A winding drum is provided to carry the elevating or hauling cable and a sheave for carrying the cable to operate the elevator. Thus one platform is at the bottom being loaded while the other is at the top being unloaded. Any load which has been lifted by the cable drum may be lowered rapidly by using a foot brake.



In the HEER "Steady Power" Hoist you get all the desirable features of all other hoists, with none of their defects. We'll prove it to you.

Write for Illustrated Bulletin.

THE HEER ENGINE CO.,

2112 H St., Portsmouth, O.

SOME SPECIAL TRAMWAY NOTES

Our correspondence develops the fact that some points still remain to be made clear.

SINGLE AND MULTIPLE TERMINALS—The impression still prevails that we can load at only one terminal and discharge at only one terminal. On the contrary, when conditions require and by a very simple adaptation the automatic tramway will load at any number of points, either grouped together or scattered anywhere along the line;—and will discharge at any number of points along the line in addition to the final terminal discharge. This therefore enables the material to be dumped to form a long pile or in separate bins for grading.

EXTENSION DUMP TERMINALS—The Lawson Tramway can advance its dumping terminal at will,—an advantage not possessed by any other tramway. For instance, in dumping spoil material the spoil bank gradually extends itself. By a simple arrangement, the dumping terminal can follow it up a few feet at a time and so carry the spoil bank out to any length. The additional cost is almost nominal.

ANGLES—The Lawson Tramway is practically independent of angles as a restricting condition. To illustrate—we have built three tramways for special service which were continuous;—that is, in which the total curvature was a complete circle, the tramway being, so to speak, a closed circuit.

The arrangement of anchorages is such that no lateral strain whatever comes on the curves. Unlike every other tramway, the additional cost is trifling and no special attendant at the curve is required, as in some.

CAPACITY OF CARS—Our Bulletins hitherto have dealt with only one capacity of car, namely,—4½ cubic feet. Experience has shown that this capacity covers 90 per cent. of the various applications.

We are, however, manufacturing a standard car containing 10 cubic feet, whose dimensions are 38"x42"x12". This car is used for comparatively light material like coal, earth, etc.

We are also designing a "Jumbo" Tramway in which each car will carry one cubic yard. This is intended for heavy contract work.

SLOPES—All cars can be so modified that they ride horizontally on any slope.

THE COMPLETE TRAMWAY—Unlike any of our competitors, we will contract for Tramways delivered and erected complete, including power if desired. We can do this because we are Construction Engineers and not merely manufacturers.

Very respectfully,

THE AMBURSEN COMPANY (Tramway Department)
61 Broadway, New York.

Indirect Heat **ROTARY DRYERS**
Especially suitable for drying all kinds of GRANULAR MATERIAL
HERSEY MANUFACTURING CO., South Boston, Mass.

Automatic Improved **DRYERS** Economical—Efficient
Great Capacity
American Process Co.
68 William St.
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For All Materials.

The **C.O. BARTLETT AND SNOW CO.**
CLEVELAND, OHIO, U.S.A.

We make elevating and conveying machinery, drop forged chain, shaking and revolving screens, car hauls, coal and ore conveyors, retarding conveyors, gypsum machinery, paint machinery, mining machinery, mechanical dryers, universal excavators and soft mud brick machinery.

**DIRECT FIRE AND STEAM-JACKETED
DRYERS**

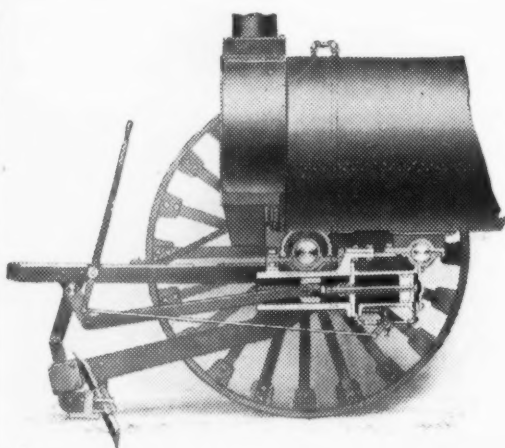


The result of 15 years of development and improvement. For drying Tankage, Fish Scrap, Stone, Sand, and similar material. The endorsement by their many users is positive proof that they are a success in every way.

Get full details in our catalog.

BOILERS STACKS TANKS
Steel Plate Construction, etc.

NEW YORK OFFICE, Hudson Terminal Bldg., New York.
PHILADELPHIA OFFICE, Morris Bldg., Philadelphia.



A Great Money Saver for the Road and Street Contractor

It first saves on the original purchase price. When you are buying a roller, for a small additional sum you can have this Scarifier attached, provided you buy the Huber Roller. Thus you have a Roller and a Scarifier, and have paid for but one outfit.

While the roller has traction power to pull this Scarifier easily, when the attachment is not used that same power can be used for other hauling, such as wagons loaded with stone, grading outfits, etc.

Scarifying bar carries nine of these heavy spikes, which are adjustable and reversible. Tears up road or street full width of roller at rear. Spikes are held in ground by cushion steam compression. They are raised clear of ground by steam power. All operator needs to do is to move a straight lever forward or back. As an economy proposition on road work you cannot beat the Huber Roller and Scarifier.

The Huber Manufacturing Co.

Dept. 10

MARION, OHIO



Bay City Land Dredge, 43' Span, $\frac{1}{2}$ Cubic Yard Dipper, Gas Engine Power. Operating Crew, Three Men.

THE BAY CITY LAND DREDGE

Is being used with profit for all kinds of ditch, drainage and irrigation excavation. For land work the Dredge spans the ditch, and is built in several sizes from 14' to 45' span. For water-work, mounted on a float, the Dredge is equally efficient. The steel construction provides a light but strong machine. Operated by three men. Engine uses gasoline or kerosene. Self-propelling. Quick and economical in operation. Can be dismantled, handled on wagons over country roads, reassembled at small cost and used to advantage on small jobs. Low operating costs, low maintenance charges and large capacity have made low cost records.

**PRACTICAL
EFFICIENT**

**ECONOMICAL
THOROUGHLY DEMONSTRATED**

Ask us for detail information.

BAY CITY DREDGE WORKS

2609 Center Ave., BAY CITY, MICH.

FOR EFFICIENT ROAD WORK

and Economical Road Work use the Galion Steel Reversible Road Machine. A strong machine having all the improvements of others and many original with us. Made of the best material and reinforced wherever the strain comes.

GALION PREMIER STEEL REVERSIBLE ROAD MACHINE

Is simplest grader built, in construction and operation. Has fewest number of working parts of any grader on the market. You only have to see it in operation to appreciate its many advantages.

Catalog and full details gladly upon request

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Designed and built by experts for continuous day and night service. Only thoroughly tested material used. Over 400 in use, and 76 are repeat orders. The repeat orders tell the true story of their wonderful success.

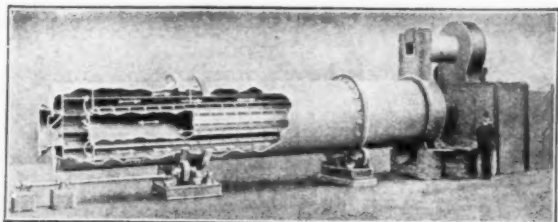
Our engineers can solve your drying problem.

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Ruggles-Coles Engineering Co.

NEW YORK—Hudson Terminal Building
50 Church Street

CHICAGO
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The American Steam Shovel

Put the American Steam Shovel on that job. You'll get it done quicker, better and cheaper. Strong, simple, handy. New catalog, full of facts, figures and photos.

The American Clay Machinery Co.
BUCYRUS, O.

Monighan Drag Line Excavators

STEAM AND GASOLINE POWER



The excavator shown in this cut can be placed on the work at less cost than any other excavating outfit. Crew for operating machine consists of only two men. The excavator is mounted on traction wheels provided with self-propelling mechanism. Boom is 40 feet long. One cubic yard bucket. We will give you, upon request, full information regarding capacity, cost of operation, etc.

We build excavators with booms from 40 to 125 ft. long and buckets from one to three cubic yard capacities.

Write for Excavator Catalog

MONIGHAN MACHINE CO., 2022 Carroll Ave., CHICAGO

Agent—P. B. ENGH { 341 Pacific Electric Bldg., Los Angeles, Cal.
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Digging for Lower Insurance Rates

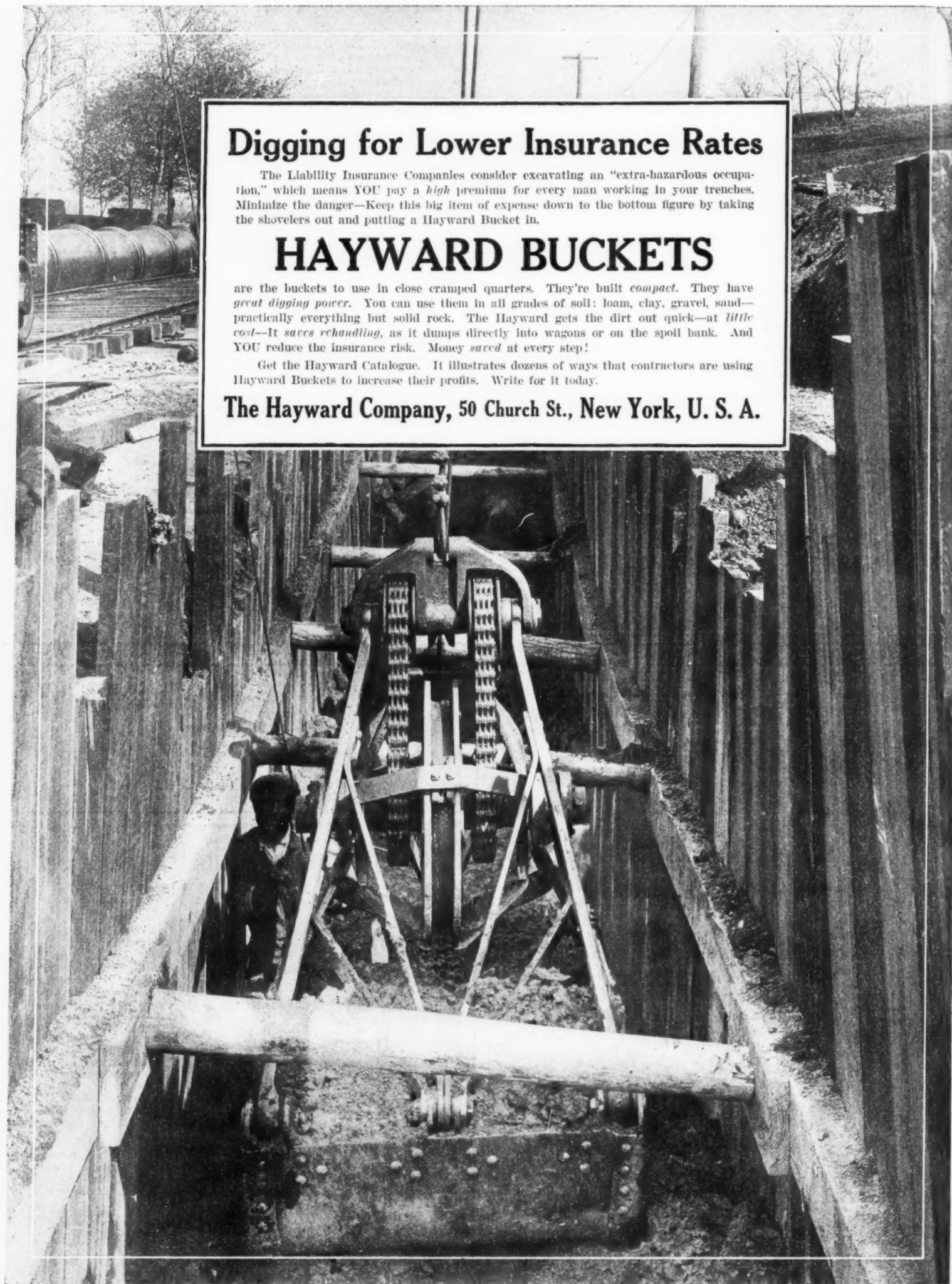
The Liability Insurance Companies consider excavating an "extra-hazardous occupation," which means YOU pay a *high* premium for every man working in your trenches. Minimize the danger—Keep this big item of expense down to the bottom figure by taking the shovelers out and putting a Hayward Bucket in.

HAYWARD BUCKETS

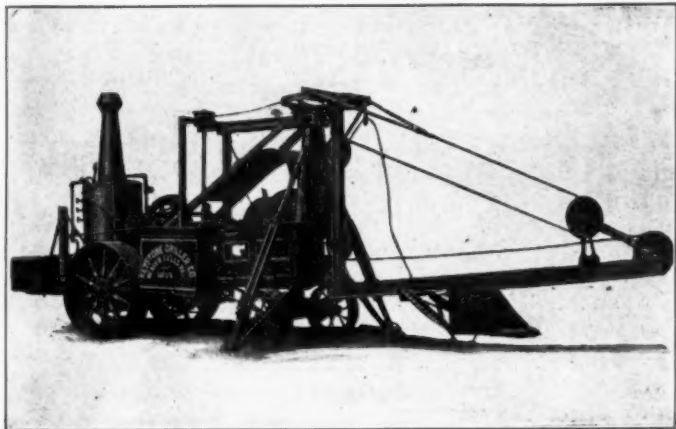
are the buckets to use in close cramped quarters. They're built *compact*. They have *great digging power*. You can use them in all grades of soil: loam, clay, gravel, sand—practically everything but solid rock. The Hayward gets the dirt out quick—at *little cost*—It *saves rehandling*, as it dumps directly into wagons or on the spoil bank. And YOU reduce the insurance risk. *Money saved* at every step!

Get the Hayward Catalogue. It illustrates dozens of ways that contractors are using Hayward Buckets to increase their profits. Write for it today.

The Hayward Company, 50 Church St., New York, U. S. A.



A Light, General Utility Steam Shovel for Contractors' Use



The cut shows machine with Skimmer Scoop for street grading and road work. It will dig a crust that would otherwise have to be broken by a roofer. Leaves a flat, finished surface for paving. Operated by two men. Capacity 150 to 300 wagon-loads in ten hours.

KEYSTONE Traction Excavator

This portable machine can be used with three kinds of scoops—adapting it to practically every grading and excavating job in the contracting field; the Skimmer Scoop for street grading; the Dipper Scoop for side hill embankments; the Ditcher Scoop for trenches, irrigation ditches, etc.

It is light—only 8 tons; portable—moving on its own power anywhere a dump wagon can go, and it is readily loaded on a freight car for shipment.

It saves both in first cost and operation over the heavier types of steam shovels. The price is surprisingly low.

We have photos of the Keystone on jobs similar to yours. Write for them and for descriptive matter.

KEYSTONE DRILL & EQUIPMENT COMPANY, Beaver Falls, Pa.

170 Broadway, New York; Monadnock Block, Chicago; Carthage, Mo.



MARION Shovels are BUILT for ECONOMICAL ROAD CONSTRUCTION

Look at the steady string of wagons in the illustration above.

Doesn't that spell economy? This contractor is keeping his men and teams busy all the time—and not part of the time as with hand labor. And you, too, can do this with a MARION Revolving Shovel. You can keep your men and teams working every minute you are PAYING them. Do you want proof? Then write for Catalog 56, TO-DAY.

The Marion Steam Shovel Co. (Established 1884)

Station H :: Marion, Ohio

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American Steel Dredges



All Sizes. Steel or Wood Hulls. Vertical or Bank Spuds.
Prompt Shipment. Send for New Catalog.

AMERICAN STEEL DREDGE CO.

FT. WAYNE, IND.

We Manufacture Locomotive Cranes Only OHIO LOCOMOTIVE CRANE COMPANY

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Southern Offices { 94 Home Life Building
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BIRMINGHAM, ALA.

High Grade Hand-Made Tested

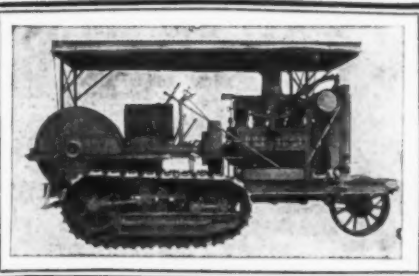


For Cranes, Dredges, Steam Shovels, Conveying, Ships, Railroads, Quarries, Etc.

FORGINGS

Manufactured by

WEIMER CHAIN & IRON CO., Lebanon, Pa., U. S. A.



CATERPILLAR
Reg. U.S. Pat. Off.

Horse-power—60
brake, 40 drawbar.
Track, standard,
24 in. wide. Two
speeds when or-
dered.

10 Years of Standardizing

More field experience behind this tractor than behind most others. We have built tractors for over 20 years—the Caterpillar for ten. You've no need to worry about its standing up.

Shortest turning tractor made—easy to steer—spring mounted—comfortable to operate.

Built low—no upsetting—ample clearance.

Reliable 4-cylinder motor—steady and powerful.

Power, workmanship and material guaranteed—highest standards of accuracy—closest micrometer inspection.

Prize winner on accessibility of parts.

Nearly 2000 in use—our Service Dept. keeps every owner satisfied.

This is the machine you will buy some day—better get our catalog No. CG 95 now.

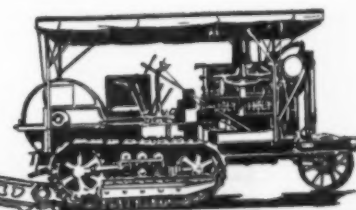
The Holt Mfg. Co., Inc.

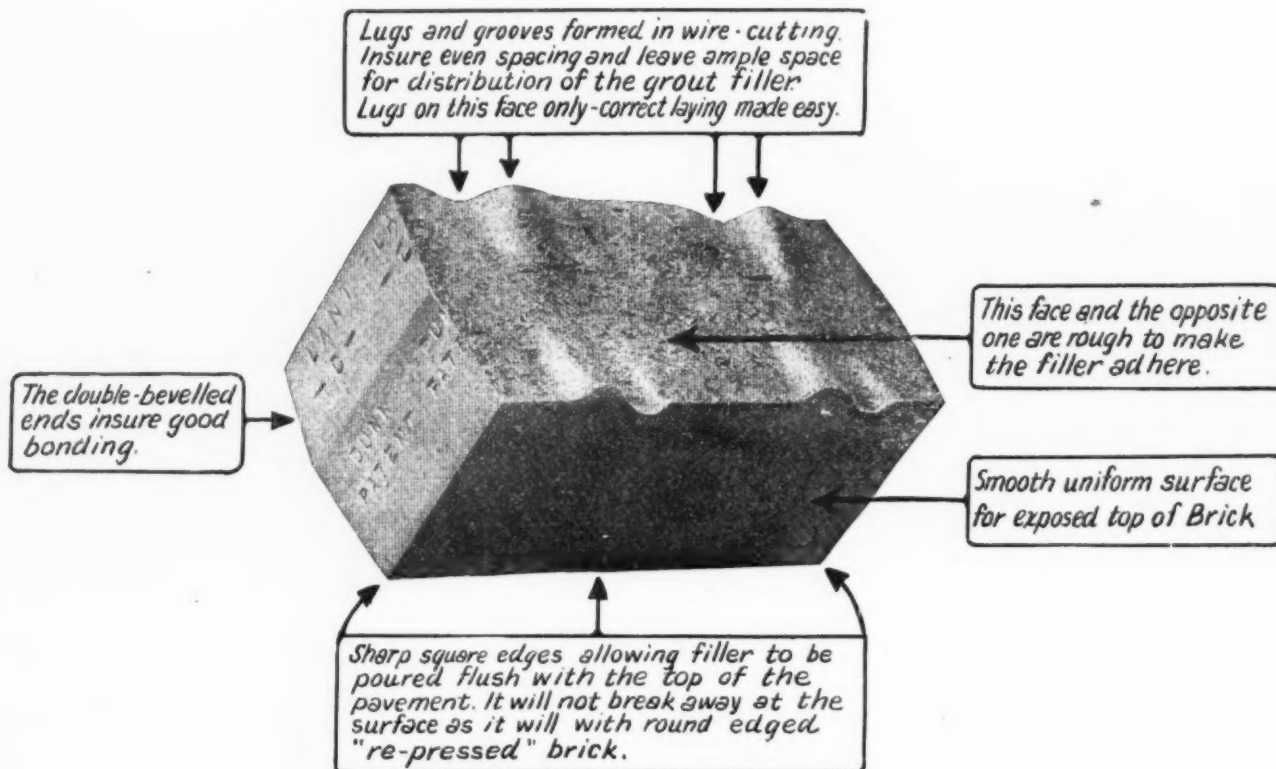
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Houston, Texas

50 Church St., New York

Send for
Bulletin
CG 95





How you provide for the best there is in Brick Pavement by Specifying

DUNN **Wire-Cut-Lug** BRICK

is shown clearly by the above diagram. Study it for a moment. Remember, it is not repressing that gives you the uniform, perfect lugs and grooves, the rough bonding surfaces, the double bevelled ends and the sharp, square edges you see here.

It is not repressing—it is WIRE-CUTTING of the lugs that does it.

It is the WIRE-CUTTING process that makes brick which, because of their shape, edges and uniformity insure a pavement that's perfectly bonded, perfectly aligned and that will perfectly protect the filler from the wear of traffic. **Think this over.**

The independent, competing licensees listed below can supply Wire-Cut-Lug Brick.

Dunn Wire-Cut-Lug Brick Company

CONNEAUT, OHIO

LICENSEES:

Corry Brick & Tile Company, Corry, Pa.
One plant at Corry, Pa.
United Brick Company, Greensburg, Pa.
One plant at Conneaut, Ohio.
Sterling Brick Company, Olean, N. Y.
One plant at Olean, N. Y.
Reynoldsville Brick & Tile Company, Reynoldsville, Pa.
One plant at Reynoldsville, Pa.
Danville Brick Company, Danville, Ill.
One plant at Danville, Ill.
Clinton Paving Brick Co., Clinton, Ind.
One plant at Clinton, Ind.
Alton Brick Company, Alton, Ill.
One plant at Alton, Ill.
Deckman-Duty Brick Co., Cleveland, Ohio.
One plant at Cleveland, Ohio.
One plant at Carrollton, Ohio.
One plant at Malvern, Ohio.

Tuna Valley Pressed Brick Co., Bradford, Pa.
One plant at Bradford, Pa.
Foster Paving Block Co., Bradford, Pa.
One plant at Bradford, Pa.
One plant at Youngsville, Pa.
One plant at Binghamton, N. Y.
Metropolitan Paving Brick Co., Canton, Ohio.
Four plants at Canton, Ohio.
One plant at Willow, Ohio.
Bessemer Limestone Co., Youngstown, Ohio.
Three plants at Bessemer, Pa.
Peebles Paving Brick Co., Portsmouth, Ohio.
Two plants at Portsmouth, Ohio.
One plant at Firebrick, Ky.
The Murphysboro Paving Brick Co., Murphysboro, Ill.

Southern Clay Mfg. Co., Chattanooga, Tenn.
One plant at Robbins, Tenn.
One plant at Coaldale, Ala.
McAvoy Vitrified Brick Co., Philadelphia, Pa.
One plant at Perkiomen Junction, Pa.
Windsor Brick Company, Akron, Ohio.
One plant at Akron, Ohio.
Hocking Valley Brick Co., Columbus, Ohio.
One plant at Logan, Ohio.
Veedersburg Paver Co., Veedersburg, Ind.
One plant at Veedersburg, Ind.
Springfield Paving Brick Co., Springfield, Ill.
One plant at Springfield, Ill.
Terre Haute Vitrified Brick Co., Terre Haute, Ind.
One plant at Terre Haute, Ind.
Albion Vitrified Brick Co., Albion, Ill.
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PAVING BRICK

WIRE CUT LUG AND DUNN PATENT
REPPRESSED

Southern Clay Manufacturing Co.
CHATTANOOGA, TENN.

Three Plants Capacity, 30,000,000

Manufacturers Record, the Medium for Machinery Advertisements.

Reliance Crushers

Are fully described in our
new CATALOG, which we send

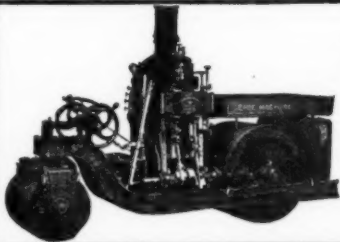
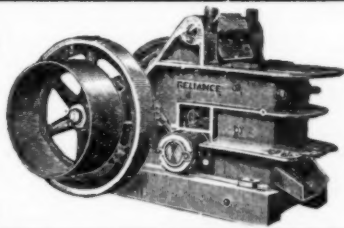
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Universal Road Machinery Co.

KINGSTON, N. Y.

ROCHESTER

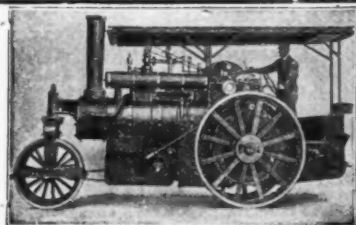
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Get "ERIE" ROLLERS

for LONG SERVICE
and BEST RESULTS

ERIE MACHINE SHOPS
ERIE, PENNA.



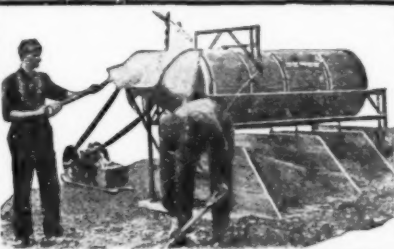
ROAD ROLLERS

ALL TYPES ALL SIZES
Steam and Gasoline

The Kelly-Springfield
Road Roller Co.

SPRINGFIELD OHIO

GET CATALOG



Converse Rotary Screen

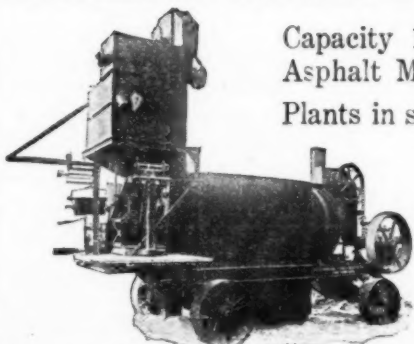
Hand or Power
For Sand, Gravel, Crushed
Stone, Etc.

In one operation separates any granular
mixture into various sizes. A big saving
for contractors. Operated by one or two
men. May be drawn along ordinary country
roads. Stands hard continuous usage.

Full particulars upon request.

F. S. CONVERSE CO., Inc.
LESTERSHIRE, N. Y.

Cummer Road Asphalt Plant



Capacity 1000 yds. 2" top or
Asphalt Macadam per day.

Plants in stock.

Make test before
buying.

Cummer one-car
2000-yard capacity
plants in stock.

THE F. D. CUMMER & SON CO. CLEVELAND, O.

Aztec Asphalt is by every essential test a superior
asphalt for paving streets and roads.

Its increasing adoption for heavy traffic pavements
is due to a high standard of quality uniform'y main-
tained.



is being used by leading cities, towns and counties in
all parts of the country for sheet asphalt, asphaltic
concrete, asphaltic macadam (mixed method) and
asphaltic macadam (penetration method).

It is highly endorsed by asphalt experts, highway
officials, engineers and contractors.

Write Us for Booklets, Quotations
and Other Information

The U. S. Asphalt Refining Co.

90 West Street, New York

CHICAGO
PHILADELPHIA

BALTIMORE
NORFOLK

MONTREAL



Baltimore St., Baltimore, Md., filled with
Standard Asphalt Block Filler.

STANDARD ASPHALT BLOCK FILLER

Write for booklet and prices.

STANDARD OIL COMPANY
(NEW JERSEY)

Newark, N. J.

Baltimore, Md.

"ARMCO QUALITY STANDS THE TEST—DIXIE SERVICE DOES THE REST"
THE MAIN QUESTION IS

ARE THEY GUARANTEED?

That's what you want to know about culverts. Guaranteed against rust, against cracking. Guaranteed fully.



AMERICAN INGOT IRON CORRUGATED CULVERTS

Are covered by the broadest kind of guarantee. We know they are 99.84% pure. They won't crack, rust or collapse in a lifetime. We know and users know of their marvelous strength and durability.

Ask any user—they are all boosters. Write for catalog.

THE DIXIE CULVERT & METAL COMPANY

LITTLE ROCK, ARK.

JACKSONVILLE FLA.

NEW ORLEANS, LA.

GREENSBORO, N. C.

Factory: ATLANTA, GA.

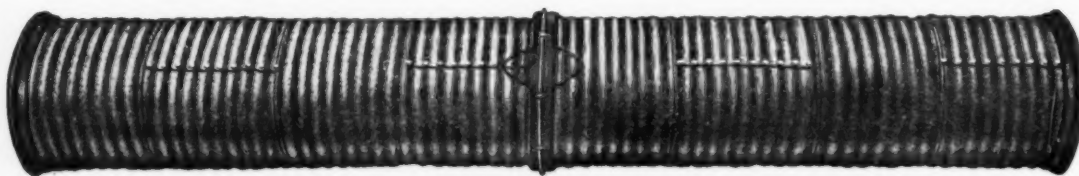
SHAWNEE, OKLAHOMA

WRITE FOR PRICES

GOOD CULVERTS

QUALITY—PURITY—DURABILITY—STRENGTH

QUALITY in Corrugated Culverts means Permanence in Business. THAT'S WHY we put QUALITY in our Culverts. Analysis of Metal yours for the asking.



The Salisbury Culvert is constructed in the strongest possible manner, and will outlast any other culvert on the market.

SALISBURY METAL CULVERT COMPANY

SALISBURY

NORTH CAROLINA

LOW PRICES

WRITE FOR PRICES

Complete Plants for Washing and Preparing Hematite Ores and Phosphate Rock

WASHERS, Wood or Steel Logs. ORE JIGS for Hard Service. ELEVATORS, All Steel. CONVEYORS, All Steel. REVOLVING SCREENS of All Kinds.

CATALOGUE FOR THE ASKING.

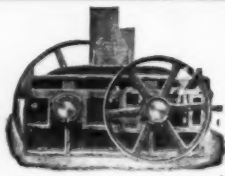
McLANAHAN-STONE MACHINE CO.

HOLLIDAYSBURG, PA.



BUCHANAN ALL STEEL CRUSHER

Rock Crushers
Crushing Rolls
Magnetic Separators
Screens, Elevators



BUCHANAN CRUSHING ROLLS

C. G. BUCHANAN CO., Inc., 90 West St., New York, U. S. A.

Southern Representative:
NATIONAL GOOD ROADS MCHRY. CO.
Baltimore Bldg., Memphis, Tenn.

Representative:
CHAS. T. TOPPING MACHY. CO.
Bailey Bldg. Bessemer Bldg., Pittsburgh, Pa.



If you are contemplating installing a culvert that will last for years to come, buy our

American Ingot Iron Culverts

We also highly recommend our

Lennon's Smooth Metal Flume and K. T. Water Gates

FOR IRRIGATION

Lone Star Culvert Company

HOUSTON, TEXAS

BALD MOUNTAIN QUARRY PAUL & CORNELL CO. Newsom, Davidson Co., N. C. CRUSHED STONE

(The Hardest Rhyolite)

FOR BALLAST, CONCRETE, MACADAM, ETC.

Large Output—Prompt Shipments.

Ask for Quotations

Simple in Construction

Gigantic in Strength

McCully Gyratory Rock Crusher

Write for Catalog PM 4-29

PRINCIPAL PRODUCTS

Rock Crushing Machinery, Mining and Smelting Machinery, Cement Making Machinery, Wood Impregnating Plants, Loomis-Pettibone Gas Generators, Suction Gas Producers, Cyanide and General Steel Tank Work, Woodbury Jigging System, Lead Burning.



Power and Mining Machinery Co.

Cudahy (Suburb of Milwaukee), Wis., U. S. A.

New York Office: 115 Broadway

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M284.1

HIGH- GRADE PAVING BRICK

COPELAND-INGLIS SHALE BRICK CO., MFRS.

Office—610 First Nat. Bank Bldg.

Birmingham, Ala.

HIGH GRADE PAVING BRICK

BEST TESTERS AND MOST DURABLE

THE CARLYLE PAVING BRICK CO., PORTSMOUTH, O.

Adamantine Clay Products Co.

Manufacturers of

PAVING, FACE and COMMON
BUILDING BRICK

NORTH MOUNTAIN, W. VA.

CRUSHED LIMESTONE

In any quantities. Deliveries to points in the Carolinas, Georgia, Florida, Alabama and Tennessee. Prompt shipments our specialty.

Chickamauga Quarry & Construction Co.
Chattanooga, Tenn.



ARMCO AMERICAN INGOT IRON CULVERTS

are not *immune* to corrosion by salt water. But they are far more *resistant* to this or any other rusting than steel or ordinary iron.

The following letter from a California County Supervisor tells of two

Armco Corrugated Culverts in Good Condition



After Seven Years' Service
Between High and Low Tides



Gentlemen:

I am in receipt of your letter of the 3rd inst., and in reply wish to state that I have had in use for almost seven years a couple of your 15" or 16" pipes, laying in salt water near Kentfield Station, and I find that they are still in good condition and subject to inspection by anyone who wishes to see them. They are easily seen, as they lay about five minutes' walk from the Kentfield Station going toward Larkspur. I have always found your pipes very good, but these are the only two which I have laying in salt water, which is constantly passing through them.

Yours very truly,
(Signed) M. Burke, Supervisor.

For full information on Armco Corrugated Culverts (Full and Part Circle), Siphons, Sheets, Roofing and Formed Products write

Armco Culvert Publicity Bureau
Cincinnati, Ohio

Supt. Wardle Says This 48"



"ACME"
(NESTABLE)

NO-CO-RO METAL

Corrugated Culvert
"is in
excellent condition—
absolutely
no sag or settling."

It's 120 ft. long. It was laid back in 1912. And under a tremendously heavy fill plus constant traffic it has given perfect service with the end nowhere in sight. Good for years to come. SERVICE is the thing YOU want from culverts! Service—STRENGTH—resistance to corrosion—these are the things you get in "ACME" (Nestable) Corrugated NO-CO-RO Metal Culverts. Get our Catalog G-9 and learn HOW and WHY. Post yourself on real culvert service-data.

For quotations for delivery in North and South Carolina, address—
THE CAROLINA METAL PRODUCTS COMPANY, Manufacturers in Wilmington, N.C.

For quotations for delivery in Virginia, West Virginia and Maryland, address—
DOMINION METAL PRODUCTS CORPORATION, Manufacturers in Roanoke, Va.

For quotations for delivery in Florida and Georgia, address—
THE FLORIDA METAL PRODUCTS COMPANY, Manufacturers in Jacksonville, Fla.

THE CANTON CULVERT & SILO CO.
MANUFACTURERS
CANTON, OHIO, U.S.A.

AMERICAN INGOT IRON "ARMCO" CULVERTS

99.84% PURE IRON

Demand

Triangle Brand on Every Sheet
This Triangle Trade-Mark is
YOUR PROTECTION
TENNESSEE METAL CULVERT CO.
Nashville, Tenn.



THERE ARE MORE HARRY'S RED "H" BRAND Corrugated Metal Culverts

in use in the Southern States today than any other kind, and the reasons are obvious.

We have been in business longer than any other Culvert concern in existence.

We are not confined to any one State or District.

Our business methods are absolutely fair and honest.

And our best efforts are given to improving our Culverts and keeping them just a little ahead of the other fellow's.

A Brand New Catalog just off the press.

HARRY BROS. CO., Inc.

NEW ORLEANS, LA.

NEWPORT, KY.

Crushed and Broken Granite

Weston & Brooker Quarry Company

LARGEST OUTPUT
QUICKEST DELIVERIES in the South Atlantic States

QUARRIES, CAYCE, S. C.
OFFICE, Columbia, S. C.

GRANITE

MONUMENTAL BUILDING or
CRUSHED STONE
WRITE FOR SAMPLES AND PRICES

ATLANTIC STONE COMPANY

Quarriers of Original "Oglesby"

835 Equitable Bldg., ATLANTA, GA.

Quarries—OGLESBY, GA.



The American Cotton Oil Co.

27 BEAVER STREET - NEW YORK CITY

CABLE ADDRESS: "AMCOTOIL," NEW YORK

COTTONSEED { OIL SOAP STEARINE

GOLD MEDALS:

CHICAGO, 1893
BUFFALO, 1901

SAN FRANCISCO, 1894
CHARLESTON, S. C., 1902

ATLANTA, 1895
ST. LOUIS, 1904

PARIS, 1900
ST. LOUIS, 1904

I.X.L. COOKING OIL

The BEST OIL

The most WIDELY KNOWN

Made at Refineries in

NEW YORK, CINCINNATI, ST. LOUIS, MEMPHIS, NEW ORLEANS, PROVIDENCE

Continental Linters

Are more generally used in Cotton Oil Mills than any other, because of their demonstrated greater delinting capacity. Write to nearest Continental Sales Office for Catalogue L-4.

Continental Gin Co.

Atlanta, Ga., Birmingham, Ala., Dallas, Tex.,
Memphis, Tenn., Charlotte, N. C.



HYDRAULIC PRESS

THE MURRAY COMPANY

DALLAS, TEXAS ATLANTA, GA., U. S. A.

ENGINEERS AND BUILDERS

COMPLETE MODERN OIL MILL EQUIPMENT

Pneumatic Seed Cleaners.
Automatic Linters.
Ball Bearing Automatic Hullers.
Steel Frame Shakers.
Steel Frame Hull Beaters.
Crushing Rolls.
Mechanical Cookers.
Automatic Steam Cake Formers.
All Steel Hydraulic Presses.
Power Hydraulic Pumps.

Everything for an Oil Mill.

Write Us for Estimates and Descriptive Matter

Cotton Seed Oil Mill Machinery

Everything Necessary for the Press Room. Write us for Prices and Descriptive Circulars.

THE FRENCH OIL MILL MACHINERY CO., PIQUA, OHIO

REPRESENTATIVES { Mr. PAUL WATSON, Galveston, Texas.
Mr. W. P. FERGUSON, 516 Empire Bldg., Atlanta, Ga.
Mr. M. W. FAHERTY, Goodwyn Institute, Memphis, Tenn.

THE CARDWELL MACHINE CO.

RICHMOND, VA., U. S. A.

WE MANUFACTURE A FULL LINE OF

OIL MILL MACHINERY

Cotton Seed, Linseed, Rape-seed, Olive, Peanut, Castor, Fish and Lard Oil

HYDRAULIC BALING PRESSES

TOBACCO MACHINERY

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Executive Office: 77 Franklin Street, Boston, Mass.

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Shops: Biddeford, Maine; Lowell, Mass.; Newton Upper Falls, Mass.

Slow Speed, Low Power Blower Systems

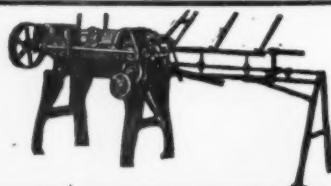
SOUTH ATLANTIC BLOW PIPE & SHEET METAL COMPANY
BLOW PIPE ENGINEERS

SAVANNAH ATLANTA JACKSONVILLE

BUM WORK

Cannot be done with a Lane SAW MILL and Hoe Saw, because they are built right and have all improved attachments for doing good work

SYDNOR PUMP & WELL CO., Inc., Dept. M. R. RICHMOND, VA.



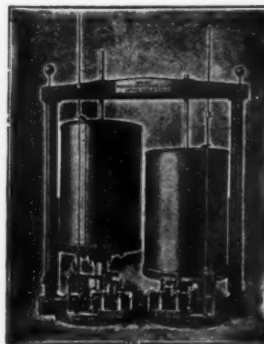
KLINE'S

Automatic Broom Handle Lathe

More and Better Handles per day and less waste is what pays dividends.

MANUFACTURED BY

LEWIS T. KLINE Alpena, Michigan



Cottonseed Oil Machinery Linseed Oil Machinery

Hydraulic Presses
Hydraulic Pumps
Cake Formers Meal Cookers
Hulling and Cleaning Machinery

Complete Equipment Latest and Best Improvements

Buckeye Iron & Brass Works

DAYTON, OHIO, U. S. A.

COTTON SEED OIL MILLS

are not installing the ANDERSON OIL EXPELLER without good reason. It makes better oil and better cake at less cost than other machinery Works whole seed or meats only. Let us explain.

Oil Mill Machinery

BURRUSS ENGINEERING CO.

ATLANTA, GA.



LANE SAW MILLS

are the World's Standard

They make the most and best lumber with lowest operating expenses and greatest real saving in stock. They handle thin saws successfully and cut with absolute accuracy. No matter what your work may demand, we have a Mill that will do it. We make a large line of machinery, including

Edgers, Planers, Matchers, Trimmers, Log Hauls, Canters, Lath Machinery, Shingle Machinery, Clapboard Machinery, Steam Feeds, Air Buffers, Rolls, Transmission Machinery, Turbines, Traveling Cranes.

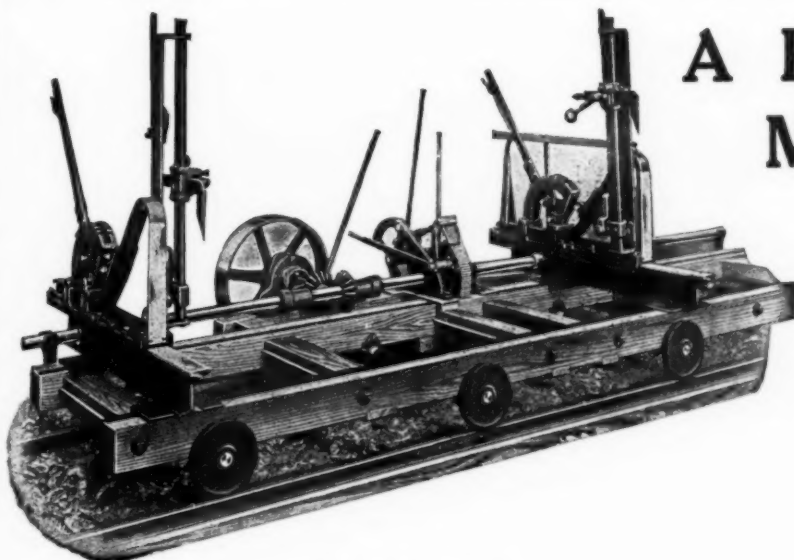
THE LANE GUARANTEE IS BACK OF IT ALL.

Our catalogs and prices are yours for the asking.
We shall be glad to hear from you.

LANE MANUFACTURING COMPANY

MONTPELIER, VERMONT.

26



Size "V" Saw Mill Carriage.

Buy a Mill with Larger Profits Assured

in so far as reliable construction, rated capacity, durability and freedom from breakdowns is concerned, and you will have nothing to regret. In no other mill of our make is our policy to manufacture only the highest class of sawmill machinery more in evidence than right here in this unusually powerful mill. Every part subjected to hard wear is especially reinforced, and we invite the most searching investigation or comparison of any experienced lumberman who may be considering a new plant or the refitting of his present mill, feeling confident that in this size "V" mill we have outdistanced every other mill of its kind on the market. Can be furnished with single belt feed husk, or top saw rig, with reversed belted top saw.

Write today for handsomely illustrated catalog showing this mill and others in detail.

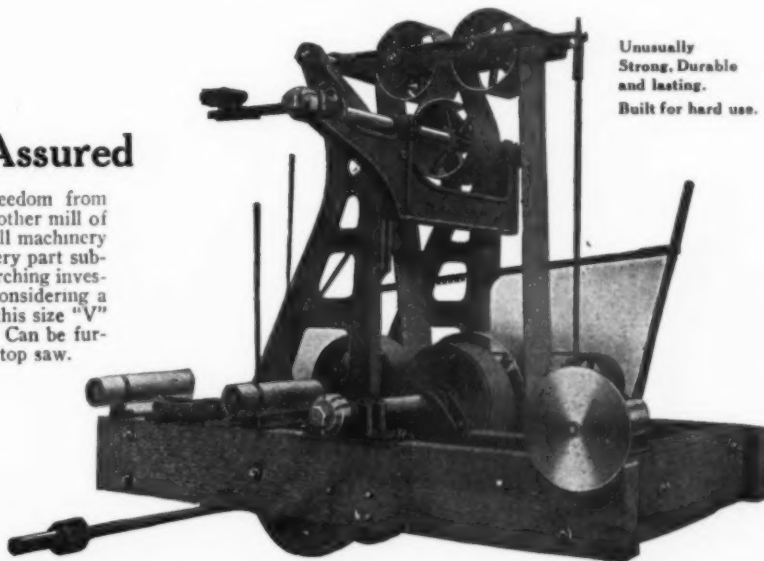
Knight Manufacturing Co.

CANTON, OHIO

Dept. A. L.

A Heavy Duty Knight Mill for Big Timber

Built exceptionally strong to produce the maximum daily output and stand up under the most severe conditions. Equipped throughout with those features that have placed Knight sawmill machinery in the foreranks in all the timber sections of this country, this mill will meet your requirements in every particular.



Unusually Strong, Durable and lasting. Built for hard use.

OPPORTUNITIES IN THE SOUTH

—FOR—

Manufacturers, Investors, Merchants, Farmers and Homeseekers

In the following pages leading railroads and a number of towns and cities invite your attention to the opportunities possessed by the rapidly developing South for every line of industry, for investments, and as a place for home-making in the city and on the farm.

The marvel of the day, commanding the world's attention to a greater extent probably than the development of any other section has ever received, is the amazing material upbuilding of the South. Everywhere men in every walk of life are beginning to study the South. They are coming to realize something of its matchless resources, to know something of the opportunities which it presents for manufacturing and for mining operations, for city building activities, for the utilization on a large scale of the cut-over timber lands and the reclaimable wet lands of the South.

With a view to presenting to the world from week to week the resources and the growth and the opportunities which are offered for all of these things, some of the leading railroads of the South and Southwest, some of the great public service corporations intimately identified with the upbuilding of this section and some of its progressive towns and cities from week to week tell the story of what they have to offer to the manufacturer, to the investor, to the merchant, to the pleasure-seeker, to the health-seeker. Study the pages that follow, and if you are at all interested in knowing about the South and its opportunities, its resources and its progress, if you want to keep in touch with that section which is attracting greater attention than any other part of America, get in communication with the organizations whose advertisements are to be found in the following pages.

THE WEST POINT ROUTE

Atlanta & West Point Railroad

THE WESTERN RAILWAY OF ALABAMA

Offers excellent locations for

Truck, Fruit, Stock and General Farming

Available Factory Sites. Abundance of Raw Material and Good Transportation Facilities
Write for information.

E. S. CENTER, General Agent, ATLANTA, GA.

Hosiery Mill Location

Will be glad to confer with interested parties regarding excellent location for hosiery mill. Splendid building now ready for machinery.

Healthful location, ample supply of labor, citizens of community interested in seeing development made.

Seaboard Air Line Railway

J. A. PRIDE, General Industrial Agent

NORFOLK, VA.

To the

MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama which are traversed by the

Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

J. M. MALLORY, Industrial Agent
SAVANNAH, GEORGIA

Attractive Factory Sites ON THE Illinois Central Railroad

For full particulars address the undersigned

Free books of information on farm lands issued by the
Illinois Central Railroad

ABOUT THE SOUTH

MISSISSIPPI—A WONDERFUL AGRICULTURAL STATE

LOUISIANA—NATURE'S GARDEN SPOT

MR. FARMER, THE YAZOO-MISSISSIPPI DELTA

IS CALLING YOU

THE PHILOSOPHY OF A NORTH MISSISSIPPI
FARM

SOUTH MISSISSIPPI, THE SETTLER'S CHANCE

Everyone who would like a Southern home or investment should have a copy of one or all of these books. For free copies address

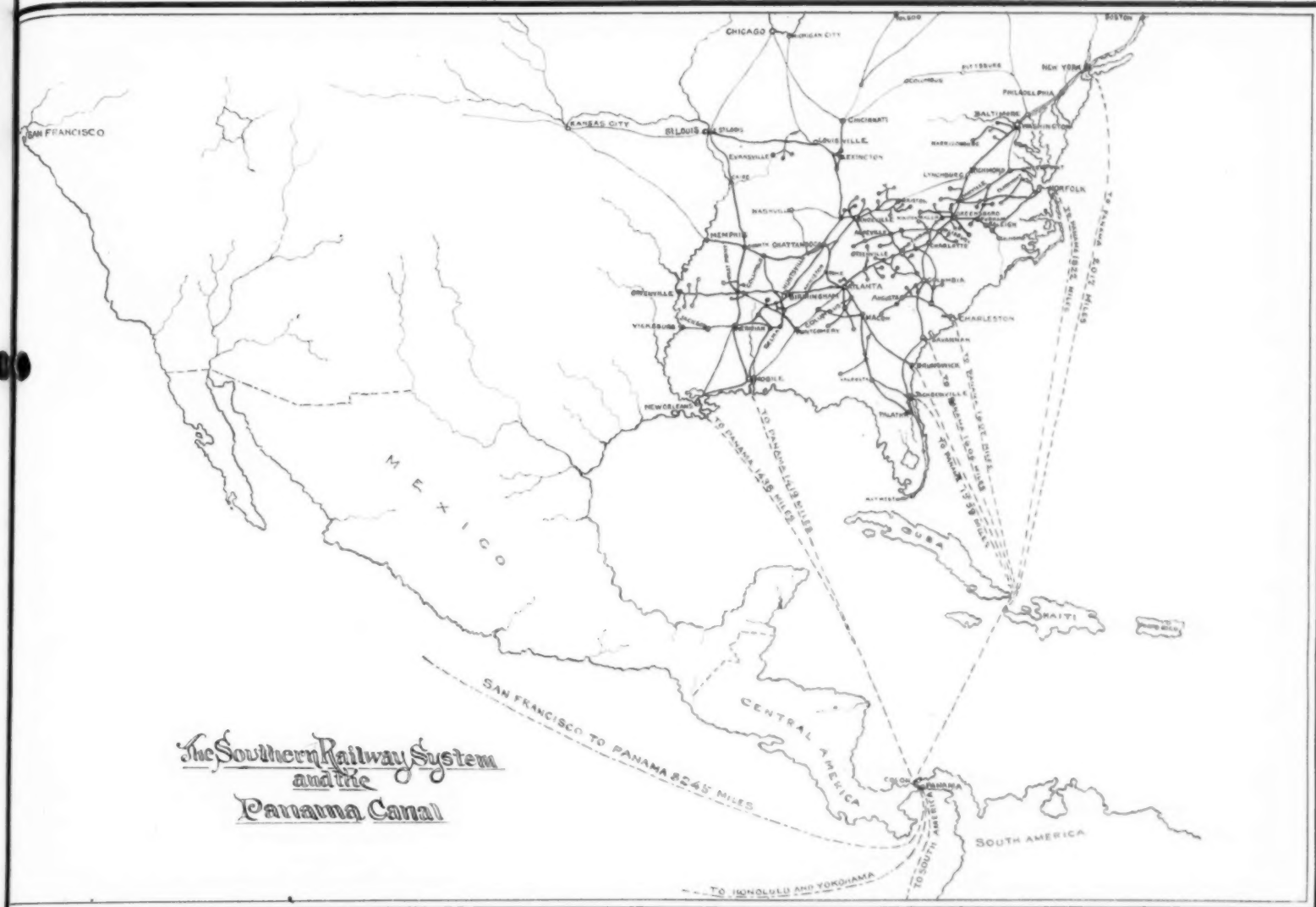
J. C. CLAIR

Industrial and Immigration Commissioner

ILLINOIS CENTRAL RAILROAD COMPANY

135 East 11th Place, CHICAGO, ILL.

The Map Tells the Story



Get Closer to South American Trade

Locate your factory amid the South's great supplies of raw materials—Cotton, Timber, Iron, Steel, Clays and Earths—where practically inexhaustible Coal supplies are convenient and cheap, where hydro-electric developments have made available more than a million horse-power, and where reliable labor is plentiful at reasonable wages.

The South American Agent of Southern Railway Company will help you find markets for your products in Central and South America.

If you want to reduce your manufacturing costs, establish a distributing warehouse, or locate in America's most charming home section, let us have an industrial agent call on you and tell you, free of cost, about the advantages of the South and Southern Railway service.

Virginia	Alabama
North Carolina	Mississippi
South Carolina	Tennessee
Georgia	Kentucky
Florida	
Southern Indiana	Southern Illinois

M. V. RICHARDS
Industrial and Agricultural Commissioner
Room 52 **Washington, D. C.**

Southern Railway
Mobile & Ohio Railroad
Georgia Southern & Fla. Ry.
Virginia & Southwestern Ry.
Southern Ry. in Mississippi

Striking Statistics of West Virginia's Growth

The following table tells more graphically and convincingly of the remarkable progress of West Virginia than it is possible to convey in any other way.

This table is worth your close study.

It strikingly emphasizes not only the State's steady expansion in all directions, but also its limitless possibilities, and outlines in a forceful manner the opportunities available for the investor, manufacturer, farmer and homeseeker.

	1900	1912
Coal mined, tons.....	22,647,207	66,700,000
Coke made, tons.....	2,358,499	3,000,000
Lumber cut, feet.....	773,583,000	1,387,786,000
Mineral products, value.....	\$47,055,384	\$106,000,000
Factory Activities—		
Capital.....	\$49,103,138	*\$150,923,000
Value of products.....	\$67,007,000	*\$161,960,000
Farm Lands—		
Value of lands.....	\$134,296,000	†\$205,610,000
Value of buildings.....	\$34,027,000	†\$56,848,000
Grain products, bushels.....	26,521,000	30,690,000
National Banks—		
Resources.....	\$25,242,824	\$82,037,491
Capital.....	\$3,849,660	\$9,760,000
Individual deposits.....	\$15,548,823	\$51,815,650
Other banks, deposits.....	\$21,317,823	\$62,071,555
Property, true value.....	\$659,652,551	\$1,200,000,000
Railroad mileage.....	2,485	3,937

*Figures of 1909

†Figures of 1910

The main and branch lines of the Baltimore & Ohio Railroad cover the greater part of West Virginia and carry the products of the manufacturer and farmer to the leading markets of this country and foreign countries.

The Baltimore & Ohio Railroad is deeply interested in every phase of the State's development, and exercises, not only in this State, but over the entire system, a policy of active encouragement to new and established industries.

The Baltimore & Ohio Railroad, through its Industrial Department, will be pleased to hear from those desiring information as to the special opportunities for investment, manufacture or farming, and will co-operate with them to the fullest extent.

Baltimore & Ohio Railroad

W. W. WOOD, General Industrial Agent
Baltimore, Md.



Massive Construction of the Clinchfield *Built for Heavy and Uninterrupted Service*

The grade of the Clinchfield Route does not exceed $\frac{1}{2}$ of 1%, or 26 feet to the mile, against South-bound freight, making it the lowest grade of any railroad crossing the Blue Ridge Mountains. With few exceptions, curves do not exceed six degrees. The roadbed is generously wide and the track is heavily ballasted throughout with stone. To maintain the low grade many heavy cuts and fills were made and numerous tunnels built. The bridges and viaducts are all of heavy steel on massive concrete foundations.

In fact, in every feature of its construction the Clinchfield represents the most approved ideas and modern methods of the day, and it has been built with the idea of standing up under the heaviest traffic with least cost for maintenance. The equipment of the Clinchfield is also of the very highest grade.

Realizing that, with the completion of northern extension, now under construction to Elkhorn, Ky., the Clinchfield Route is to be the principal highway between the West and South, and over its tracks will eventually pour great quantities of freight seeking its way to the South and the seacoast, no expense has been spared in making this the finest railroad that could be built.

Its low grade, easy curves, heavily ballasted roadbed and massive construction mean to the manufacturer, the business man, and shippers in general, constant, quick and uninterrupted service. Couple with this the many resources along the Clinchfield awaiting development and the strategic position the country traversed occupies, and some idea can be formed of the varied opportunities offered in the wonderful country opened up by the Clinchfield.

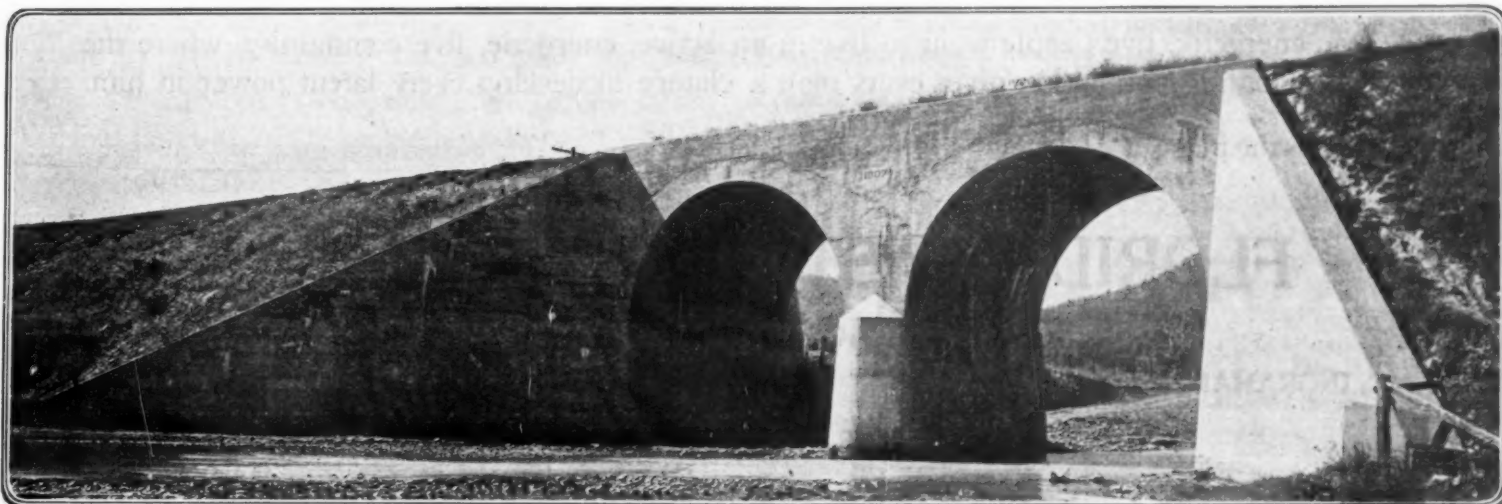
*Detailed Information Regarding Opportunities
Along the Clinchfield Will Be Gladly Furnished.*

Carolina, Clinchfield and Ohio Railway

"The Road of Opportunity"

R. F. BREWER, Industrial Agent

JOHNSON CITY, TENN.



"The Promised Land of Health and Prosperity" is Florida

Between 1900 and 1910 the population of the United States increased.....	21 %
During the same period the population of Florida increased.....	42.4%
The increase in value of farm lands in the United States between 1900 and 1910 was.....	118 %
The gain in Florida during the same years was.....	203 %
The value of Florida's 12 leading diversified crops common to most of the country (and not including the citrus crops, so large a factor in the agricultural interests of this State) increased from \$6,677,000 in 1899 to \$15,104,000 in 1910, a gain of.....	126 %
The gain in the whole country for the same crops was.....	81.1%
Between 1900 and 1909 capital invested in factories increased in the whole country.....	108.8%
In Florida the rate of gain was.....	152.6%
The value of factory products increased during the same time in the United States.....	81.7%
The value of factory products in Florida increased.....	112.7%

In each one of these comparisons the rate of increase in Florida was far greater than that of the entire country during the same period.

These remarkable illustrations of well-rounded progress combine to emphasize the wonderful agricultural and industrial activities and possibilities of the State.

This growth, while showing a great percentage of increase in the last decade, has been a steadily advancing one; and when the many large undertakings that are under way in Florida, such as the draining of the Everglades, extension of railroads, developing of new farming and trucking areas, etc., are considered, all of which will open up opportunities of even wider magnitude, a much greater advance can be safely predicted for the next ten years.

A State which is drawing an ever-increasing number of health and pleasure seekers, of permanent settlers—some to engage in general agriculture, some in manufactures, some in fruit growing—oranges, grape fruit or kindred interests, some in trucking, some in dairying, and some in chicken raising—is an ideal land for investigation on the part of those who want

The most perfect all-the-year-round climate to be found in America;
Manufacturing and agricultural advantages of vast and varied extent;
Transportation facilities that are rapidly being extended to meet the
ever expanding business of the State.

Florida is the State.

Active, energetic, live people want to live in an active, energetic, live community, where the tide of incoming population gives every man a chance to develop every latent power in him.

Florida is the place.

FLORIDA EAST COAST RAILWAY

(FLAGLER SYSTEM)

J. E. INGRAHAM, Vice-President

ST. AUGUSTINE, FLA.

HOMESEEEKERS' RATES FOR 1915

Seaboard Air Line Railway

The Progressive Railway of the South

Announces the establishment of attractive Round-Trip Homeseekers' Rates to Progressive Florida.

TO	FROM	
	WASHINGTON, D. C.	CINCINNATI, OHIO
	January 12th, February 9th and FIRST and THIRD TUESDAYS in each succeeding month.	January 5th and 19th and FIRST and THIRD TUESDAYS in each succeeding month.
TICKETS GOOD FOR 21 DAYS		
NORTH FLORIDA		
Lake City	\$22.65	\$27.10
Quincy	24.55	25.60
Tallahassee	24.45	25.60
THE BEAUTIFUL LAKE COUNTRY		
Ocala	25.00	30.00
Orlando	25.00	30.00
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 Whitinsville Spin'g Ring Co., Whitinsville, Mass.

Cotton-Mill Supplies.

American Supply Co., Providence, R. I.
 Whitinsville Spin'g Ring Co., Whitinsville, Mass.

Cottonseed-Oil Machinery.

Buckeye Iron & Brass Works, Dayton, O.
 Burruss Engineering Co., Atlanta, Ga.
 Caldwell Machine Co., Richmond, Va.
 Carter Cotton Gin Co., East Bridgewater, Mass.
 Continental Gin Co., Birmingham, Ala.
 French Oil Mill Machinery Co., Piqua, O.
 Murray Co., The, Atlanta, Ga.
 Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Couplings.

American Spiral Pipe Works, Chicago, Ill.
 Golden's Foundry & Machine Co., Columbus, Ga.
 Wood's Sons Co., T. B., Chambersburg, Pa.

Couplings. (Car.)

Weimer Chain & Iron Co., Lebanon, Pa.

Couplings. (Hose, Air, Gas, Steam and Water.)

National Tube Co., Pittsburgh, Pa.

Coverings. (Pipe, Rubber, etc.)

Johns-Manville Co., W. W., New York, N. Y.
 Southern Asbestos Mfg. Co., Inc., Richmond, Va.

Cranes. (Locomotive.)

American Hoist & Derrick Co., St. Paul, Minn.

Cranes. (Traveling, Hand, Power, Hydraulic.)

Lane Mfg. Co., Montpelier, Vt.
 Spindel, J. G., Reading, Pa.

Craysons.

Georgia Talc Co., Asheville, N. C.
 Lowell Crayon Co., Lowell, Mass.

Crosscutting Equipment.

Casey-Hedges Co., Chattanooga, Tenn.
 Struthers-Wells Co., Warren, Pa.
 Walsh & Wedder Boiler Co., Chattanooga, Tenn.

Crosscutting Works.

American Crosscut Works, New Orleans, La.
 International Crosscut & Cons. Co., Galveston, Tex.
 National Lumber & Crosscut Co., Texarkana, Ark.
 Southern Crosscutting Co., Ltd., Sibley, La.
 Southern Wood Preserving Co., Atlanta, Ga.

Crossarms and Pins.

Western Electric Co., New York, N. Y.

Crossarms. (Crosscut.)

American Crosscut Wks., New Orleans, La.
 International Crosscut & Cons. Co., Galveston, Tex.
 National Lumber & Crosscutting Co., Texarkana, Ark.
 Southern Crosscutting Co., Ltd., Sibley, La.
 Southern Wood Preserving Co., Atlanta, Ga.

Crossings. [See Railroad Frogs and Switches.]**Crossing Machine.**

Standard Portable Saw Mill Co., New Orleans, La.

Crosssties. (Crosscut.)

American Crosscut Works, New Orleans, La.
 International Crosscut & Cons. Co., Galveston, Tex.
 National Lumber & Crosscut Co., Texarkana, Ark.
 Southern Crosscutting Co., Ltd., Sibley, La.
 Southern Wood Preserving Co., Atlanta, Ga.

Crushed Stone. (Road Concrete and Ballast.)

American Ballast Co., Knoxville, Tenn.
 Atlantic Stone Co., Atlanta, Ga.
 Chickamauga Quarry & Construction Co., Chattanooga, Tenn.
 Kirkpatrick Sand & Cement Co., Birmingham, Ala.
 Weston Brook Quarry Co., Columbia, S. C.

Crushers. (Corn and Cob.)

Grundler Pat. Crusher & Pulv. Co., St. Louis, Mo.
 Jeffrey Mfg. Co., Columbus, O.
 Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Crushers. (Rock.)

Austin Mfg. Co., Chicago, Ill.
 Buchanan Co., Inc., C. G., New York, N. Y.
 Power & Mining Machinery Co., Oudaby, Wis.
 Raymond Bros. Impact Pulv. Co., Chicago, Ill.
 Universal Road Mch. Co., Kingston, N. Y.
 Western Wheeler Scraper Co., Aurora, Ill.
 Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Crushing and Pulverizing Machinery.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Alving Engineering Co., J. R., New York, N. Y.
 Austin Mfg. Co., Chicago, Ill.
 Bartlett & Snow Co., C. O., Cleveland, O.
 Buchanan Co., Inc., C. G., New York, N. Y.
 Grunder Pat. Crusher & Pulv. Co., St. Louis, Mo.
 Jeffrey Mfg. Co., Columbus, O.
 McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
 Raymond Bros. Impact Pulv. Co., Chicago, Ill.
 Siedman's Foundry & Machine Works, Aurora, Ind.
 Western Wheeler Scraper Co., Aurora, Ill.
 Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Culvert Pipe. (Cast Iron.)

American Cast Iron Pipe Co., Birmingham, Ala.
 Clow & Sons, James B., Chicago, Ill.
 Donaldson Iron Co., Emaus, Pa.
 Glamorgan Pipe & Foundry Co., Lynchburg, Va.
 Lynchburg Foundry Co., Lynchburg, Va.
 Massillon Iron & Steel Co., Massillon, Ohio.
 Standard Cast Iron Pipe & Foundry Co., Bristol, Pa.
 Wood & Co., R. D., Philadelphia, Pa.

Culverts. (Corrugated Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.
 Amco Culvert Fabricating Bureau, Cincinnati, O.
 Atlas Metal Works, Dulles, Tex.
 Canton Culvert and Silo Co., The, Canton, O.
 Dixie Culvert & Metal Co., Atlanta, Ga.
 Gallion Iron Works & Mfg. Co., The, Gallion, Ohio.
 Harry Bros. Co., Newport, Ky.
 Lone Star Culvert Co., Houston, Tex.
 National Corrugated Culvert Mfg. Co., Warren, Pa.
 Salisbury Metal Culvert Co., Inc., Salisbury, N. C.
 Tennessee Metal Culvert Co., Nashville, Tenn.
 Virginia Metal & Culvert Co., Inc., Roanoke, Va.

Culverts. (Vitrified Pipe.)

Southern Sewer Pipe Co., Birmingham, Ala.

Cupola Furnaces.

Paxon Co., J. W., Philadelphia, Pa.

Curb Protector. (Steel.)

Steel Protected Concrete Co., Philadelphia, Pa.

Cutter Grinders.

Vitrified Wheel Co., Westfield, Mass.

Cutting. (Oxy-Acetylene Process.)

Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

Dams. (Reinforced Concrete.)

Berry-Fortune Construction Co., Easton, Pa.

Derricks and Derrick Fittings.

American Hoist & Derrick Co., St. Paul, Minn.
 Hyatt Mach. Co., The John F., Ravenna, O.
 Hayward Co., The, New York, N. Y.
 Monaghan Machine Co., Chicago, Ill.

Ditching Machinery.

American Hoist & Derrick Co., St. Paul, Minn.
 American Steel Dredge Co., Fort Wayne, Ind.
 Rex City Dredge Works, Hay City, Mich.
 Fairbanks Steam Shovel Co., Marion, O.
 Gade Excavating Co., Iowa Falls, Iowa
 Hayward Co., The, New York, N. Y.
 Marion Steam Shovel Co., Chicago, Ill.
 Monaghan Machine Co., Chicago, Ill.
 Williams Co., The, G. H., Cleveland, O.

Doors. (Steel Rolling.)

Kinnear Mfg. Co., Columbus, O.

Doors. (Tin Clad.)

Victor Mfg. Co., Newburyport, Mass.

Draftsman.

Childree Co., Richmond, Va.

Draftsmen's Supplies.

Weber & Co., F., Philadelphia, Pa.

Dredge Chains.

Weimer Chain & Iron Co., Lebanon, Pa.

Dredges. [See Excavating Machinery.]**Drills. (Pneumatic) [See also Drills Rock and Mining.]**

Keystone Steam Well Mach. Co., Beaver Falls, Pa.

Drills. (Prospecting.)

Keystone Steam Well Mach. Co., Beaver Falls, Pa.

Drills. (Rock and Mining.)

Independent Pneumatic Tool Co., Chicago, Ill.

Drills. (Twist.)

McKenna Bros. Brass Co., Pittsburgh, Pa.

Drive Well Points and Well Supplies.

National Tube Co., Pittsburgh, Pa.

Drop Forgings.

American Spiral Pipe Works, Chicago, Ill.

Drop Forging Machinery.

Hiles Co. E. W., Brooklyn, N. Y.

Dry Docks. (Builders of)

American Bridge Co. of New York, N. Y.

Drying Machinery.

American Process Co., New York, N. Y.
 Bailey-Libby Co., The, Charleston, S. C.
 Buffalo Forge Co., Buffalo, N. Y.
 Coatesville, Boiler Works, Coatesville, Pa.
 Cummer & Son Co., F. D., The, Cleveland, Ohio
 Hersey Manufacturing Co., South Boston, Mass.
 Ruggles-Cole Engineering Co., New York, N. Y.
 Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Dry Kilns.

Buffalo Forge Co., Buffalo, N. Y.

Moore Dry Kiln Co., L., Jacksonville, Fla.

Dry Kiln Equipment.

Moore Dry Kiln Co., L., Jacksonville, Fla.

Drying Ovens.

Oven Equipment & Mfg. Co., The, New Haven, Conn.

Dumbwaiters. (Hand Power.)

King, Wm. F., Brooklyn, N. Y.

McKenna Bros. Brass Co., Pittsburgh, Pa.

Spindel, J. G., Reading, Pa.

Dump Wagons and Wagon Axes.

Troy Wagon Works Co., Troy, O.

Dust-Collecting Systems.

Buffalo Forge Co., Buffalo, N. Y.
 King Co., F. E., Norfolk, Va.
 South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga.

Dynamite. (Industrial and Agricultural.)

Keystone Nat'l Powder Co., Emporium, Pa.

Dynamics and Motors.

Assets Purchasing Co., Wheeling, W. Va.
 General Electric Co., Schenectady, N. Y.
 Pan Electric Mfg. Co., St. Louis, Mo.
 Terry Steam Turbine Co., Hartford, Conn.
 Triumph Electric Co., Cincinnati, O.
 Western Electric Co., New York, N. Y.

Eaves. (Trough.)

Edwards Mfg. Co., Cincinnati, O.

Ejectors. (Sewage.)

Laukenheimer Co., The, Cincinnati, O.

Pacific Flush Tank Co., New York, N. Y.

Electric Machinery. (Dynamoes, Generators, Motors, etc.)

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
 American Elevator & Mch. Co., Louisville, Ky.
 Crocker-Wheeler Co., Amper, N. J.
 Engberg Electric & Mechanical Works, St. Joseph, Mich.
 Fairbanks-Morse & Co., Atlanta, Ga.
 General Electric Co., Schenectady, N. Y.
 Heer Engine Co., Portsmouth, O.
 Lee Electric Co., Baltimore, Md.
 Moore & Co., Edgar M., Pittsburgh, Pa.
 Pan Electric Mfg. Co., St. Louis, Mo.
 McClelland Electric Co., Asheville, N. C.
 Robbins & Myers Co., Springfield, O.
 Schenectady Co., R., Philadelphia, Pa.
 Schroeder Electric Co., Evansville, Ind.
 Sturtevant Co., B. F., Hyde Park, Boston, Mass.
 Triumph Electric Co., Cincinnati, O.
 Wilson Mch. Co., Harold R., St. Louis, Mo.

Electrical Contractors, Instruments and Supplies.

Crocker-Wheeler Co., Amper, N. J.
 Economy Fuse & Mfg. Co., Chicago, Ill.
 General Electric Co., Schenectady, N. Y.
 Hill & Co., Walter E., Baltimore, Md.
 Lee Electric Co., Baltimore, Md.
 Levy-Morton Co., Columbus, Ga.
 Piedmont Electric Co., Asheville, N. C.
 Robbins & Myers Co., Springfield, O.

Electric Light Plants. (Portable.)

Schroeder Electric Co., Evansville, Ind.

Electro-Magnet. [See Magnet Electro.]**Electric Vehicles.**

General Vehicle Co., Long Island City, N. Y.

Elevating, Conveying and Power Transmission Machinery. [See also Conveying and Elevating Machinery and Power Transmission Mch.]**Elevator.**

AMERICAN ELECTRIC
 American Electric Machine & Elevator Co., St. Louis, Mo.
 Atlas Machine Co., Louisville, Ky.
 Curren Elevator Co., James H., Cincinnati, O.
 K. C. Elevator Mfg. Co., Kansas City, Mo.
 Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.
 Moffatt Machinery Mfg. Co., Charlotte, N. C.
 Ohio Elevator & Machine Co., Columbus, O.
 Spindel, J. G., Reading, Pa.
 Warsaw Elevator Co., Baltimore, Md.
 West-rick Elevator Co., Danville, Va.

HAND AND BELT POWER.

American Electric Machine & Elevator Co., St. Louis, Mo.
 Atlas Machine Co., Louisville, Ky.
 Curren Elevator Co., James H., Cincinnati, O.
 K. C. Elevator Mfg. Co., Kansas City, Mo.
 Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.
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 Warsaw Elevator Co., Baltimore, Md.
 West-rick Elevator Co., Danville, Va.

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Engineers.

MECHANICAL.

Arnold Co., The, Chicago, Ill.
Kent, Inc., Robert Snyre, Brooklyn, N. Y.
Kell, Thos. G., Cincinnati, Ohio.
Lide Martin J., Birmingham, Ala.
McLundie, A. S., Chattanooga, Tenn.
Stevens, Harry, Washington, D. C.
Tucker & Laxton, Charlotte, N. C.

MINING.

Brown & Clarkson, Washington, D. C.
Grimesley, G. P., Martinsburg, W. Va.
Jones, E. M., Chattanooga, Tenn.

MUNICIPAL.

Anderson & Christie, Charlotte, N. C.
Blair & Drane, Charlotte, N. C.
Brown & Clarkson, Washington, D. C.
Crooby, Walter W., Baltimore, Md.
Cory-Harrison & Co., San Antonio, Texas.
Dabney Engineering Co., Memphis, Tenn.
Elrod, Henry E., Dallas, Texas.
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Greiner & Whitman, Baltimore, Md.
Knowles, Morris, Pittsburgh, Pa.
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Pew, Arthur, Atlanta, Ga.
Shand Engineering Co., Columbia, S. C.
Walker Engineering Corp., Tampa, Fla.
White, Gilbert C., Charlotte, N. C.

PAVING AND ROAD.

Anderson & Christie, Charlotte, N. C.
Atlantic Engineering Co., Savannah, Ga.
Blair & Drane, Charlotte, N. C.
Bryant, Glaucaus A., Wilson, N. C.
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Institute of Industrial Research, Washington, D. C.
McCady Bros. & Cheves, Inc., Oberlin, S. O.
Shand Engineering Co., Columbia, S. C.
Walker Engineering Corp., Tampa, Fla.
White, Gilbert C., Charlotte, N. C.

PUBLIC SERVICE PROPERTIES.

Day & Zimmerman, Philadelphia, Pa.
Ferreco Co., The, H. G., Memphis, Tenn.
Ford, Hagen & Davis, New York, N. Y.
Gilman, Harry L., Boston, Mass.
Graves Engineering Co., Inc., New York, N. Y.
Maxey, John Wharton, Houston, Tex.
Seefeld Engineering Co., Philadelphia, Pa.
Stone & Webster Eng. Corp., Boston, Mass.
White Companies, J. G., New York, N. Y.

REINFORCED CONCRETE. (Bridges, Buildings, etc.)

Cunningham Construction Co., Shreveport, La.
Foster-Creighton-Gould Co., Nashville, Tenn.
Guarantee Construction Co., New York, N. Y.
Luten, Daniel H., Indianapolis, Ind.
Foster, Alexander, New York, N. Y.
Requarth Co., C. V., Charlotte, N. C.
Savannah Eng. & Construction Co., Savannah, Ga.
Spiker, William O., Atlanta, Ga.
Tucker & Laxton, Charlotte, N. C.
White Companies, J. G., New York, N. Y.

RIVER AND HARBOR.

Gilman, Harry L., Boston, Mass.

SEWERAGE AND WATER-WORKS.

Anderson & Christie, Charlotte, N. C.
Bryant, John R., Birmingham, Ala.
Blair & Drane, Charlotte, N. C.
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Cory-Harrison & Co., San Antonio, Texas.
Dabney Engineering Co., Memphis, Tenn.
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Hill, Nicholas S., Jr., and S. F. Ferguson, New York, N. Y.

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Maxey, John Wharton, Houston, Tex.
Mayer, J. H., Birmingham, Ala.
Miller, Hiram Allen, Boston, Mass.
Myers, E. W., Greensboro, N. C.
Pew, Arthur, Atlanta, Ga.
Potter, Alexander, New York, N. Y.
Quick, Alfred M., Baltimore, Md.
Stevens, Harry, Washington, D. C.
Walker Engineering Corp., Tampa, Fla.
White Companies, J. G., New York, N. Y.
White, Gilbert C., Charlotte, N. C.

STEEL WORK AND ROLLING MILLS.

Smythe Co., The, S. R., Pittsburgh, Pa.

STRUCTURAL STEEL.

Foster-Creighton-Gould Co., Nashville, Tenn.
Shearer, C. E., Memphis, Tenn.
Solomon-Norcross Co., Atlanta, Ga.
Spiker, William O., Atlanta, Ga.

THEATRE CONSTRUCTION.

Gatlin, W. R., Hopkinsville, Ky.

Engines.

COMPRESSED AIR.

Dake Engine Co., Grand Haven, Mich.

GAS AND GASOLINE.

Affiliated Manufacturers Co., Milwaukee, Wis.
Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
Cooper Co., C. & G., Mt. Vernon, Ohio.
Gibbs Machinery Co., Inc., Columbia, S. C.
Heer Engine Co., Portsmouth, O.
Mietz, A., New York, N. Y.
Otto Gas Engine Works, Philadelphia, Pa.
Southern Engine & Boiler Works, Jackson, Tenn.
Van Duzen, Royce Co., The, Columbus, O.
Westinghouse Machine Co., The, Pittsburgh, Pa.

OIL.

Chicago Pneumatic Tool Co., Chicago, Ill.
Fairbanks-Morse & Co., Atlanta, Ga.
Heer Engine Co., Portsmouth, Ohio.
Mietz, A., New York, N. Y.
Snow Steam Pump Works, The, New York, N. Y.

STEAM.

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
American Hoist & Derrick Co., St. Paul, Minn.
Ball Engine Co., Erie, Pa.
Buffalo Forge Co., Buffalo, N. Y.
Camerson & Bartley Co., Charleston, S. C.
Cooper Co., C. & G., Mt. Vernon, Ohio.
Dake Engine Co., Grand Haven, Mich.
Engberg Electric & Mechanical Works, St. Joseph, Mo.

Erie City Iron Works, Erie, Pa.
Gibbs Machinery Co., Inc., Columbia, S. C.
Griffith & Wedge Co., The, Zanesville, O.
Harris Bros. Co., Chicago, Ill.
Houston, Stanwood & Gamble Co., Cincinnati, O.
Jeffrey-Griner Machinery Co., Philadelphia, Pa.
Lefter & Co., St. Louis, Mo.
Lombard Iron Works, Augusta, Ga.
Mecklenburg Iron Works, Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Phoenix Iron Works Co., Nashville, Pa.
Schofield Iron Works, Macon, Ga.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Viller Mfg. Co., Milwaukee, Wis.
Westinghouse Machine Co., Pittsburgh, Pa.

Envelopes.

Young & Selden Co., Baltimore, Md.

Excavating Machinery.

American Clay Machinery Co., The, Bucyrus, Ohio.
American Steel Dredge Co., Fort Wayne, Ind.
Bay City Dredge Works, Bay City, Mich.
Byers Mach. Co., The John F. Ravenna, O.
Fairbanks Steam Shovel Co., Marion, O.
Gade Excavating Co., Iowa Falls, Iowa.
Harward Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Keystone Drill & Equipment Co., Beaver Falls, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Marion Steam Shovel Co., Marion, O.
Monaghan Machine Co., Chicago, Ill.
Morris Machine Works, Baldwinville, N. Y.
National Hoisting Engine Co., Harrison, N. J.
Williams Co., The G. H., Cleveland, O.

Excavators. (Trench.)

Bay City Dredge Works, Bay City, Mich.
Fairbanks Steam Shovel Co., Marion, O.
Gade Excavating Co., Iowa Falls, Iowa.
Harward Co., The, New York, N. Y.
Monaghan Machine Co., Chicago, Ill.

Excelsior Machinery.

Kline, Lewis T., Alpena, Mich.

Exhaust Heads.

American Spiral Pipe Works, Chicago, Ill.

Exhibits. (Machinery Builders' Equipment and Supplies.)

Builders' Exchange, Baltimore, Md.

Expansion Joints.

Radner & Sons Co., E. B., Boston, Mass.

Expanded Metal. [See Lath.]

Explosives.

Keystone Nat'l. Powder Co., Emporium, Pa.

Export Agents. (South America.)

Lutz, Friedr. W., Richmond, Va.

Factory Sites. (Town and Railroad.) [See Industrial, Agricultural and Commercial Opportunities.]

Fans. (Electric.)

General Electric Co., Schenectady, N. Y.
Robbins & Myers Co., Springfield, O.

Fans. (Ventilating.) [See Blowers, Exhaust Fans.]

Fastener Driving Machine. (Corrugated Joint.)

Saranac Machine Co., Ranton Harbor, Mich.

Feed-Water Heaters and Purifiers.

American Water Softener Co., Philadelphia, Pa.
Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Erie City Iron Works, Erie, Pa.
Murray Iron Works Co., Burlington, Ia.
National Pipe Banding Co., New Haven, Conn.
Scattle & Sons Co., Wm. B., Pittsburgh, Pa.
Stewart Heater Co., Buffalo, N. Y.

Feed-Water Heater and Purifier and Oil Separator Combined.

Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Stewart Heater Co., Buffalo, N. Y.

Felt. (Building, Sheathing.)

Harrett Mfg. Co., Philadelphia, Pa.

Fencing. (Woven Wire Field.)

American Steel & Wire Co., Chicago, Ill.
Gulf States Steel Co., Birmingham, Ala.

Fencing, Entrance Gates. (Iron, Steel, Wire.)

American Steel & Wire Co., Chicago, Ill.
Holies Iron & Wire Wks., J. E., Detroit, Mich.
Dow Wire & Iron Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
New Jersey Wire Cloth Co., Trenton, N. J.
Ohio Elevator & Mach. Co., The, Columbus, O.

Fertilizer Machy. [See also Phosphate Machy.]

Stedman's Foundry & Machine Works, Aurora, Ind.
Valk & Murdoch Iron Works, Charleston, S. C.

Fibre. (Vulcanized.)

Continental Fibre Co., Newark, Del.

Files.

Barnett Co., G. & H., Philadelphia, Pa.
Nicholson File Co., Providence, R. I.

Filters. (Water, for Domestic and Industrial Purposes.)

American Water Softener Co., Philadelphia, Pa.
International Filter Co., Chicago, Ill.
New York Con. Jewell Fil. Co., New York, N. Y.

Fire Clay. [See Brick, Fire.]

Fire Door Fixtures.

Richmond Safety Gate Co., Richmond, Ind.
Victor Mfg. Co., Newburyport, Mass.

Fire Extinguishers.

Badger & Sons Co., E. B., Boston, Mass.

Fire Escapes.

Holies Iron & Wire Works, J. E., Detroit, Mich.
Oakesape Iron Works, Baltimore, Md.

Fire Places. (Brick and Tile.)

Hood Brick Co., B. Mifflin, Atlanta, Ga.

Fireproof Building Construction. [See Concrete Construction.]

Fireproof Building Material.

Bannon Pipe Co., P., Louisville, Ky.
John-Manville Co., H. W., New York, N. Y.

Fireproof Doors and Shutters.

Kinnear Mfg. Co., Columbus, O.
Richmond Safety Gate Co., Richmond, Ind.
Victor Mfg. Co., Newburyport, Mass.

Fireproof Windows. [See Window Frames and Sashes (Fireproof).]

Fittings. (Wire Rope.)

Waterbury Co., New York, N. Y.

Fireproofing. (Brick and Tile.)

Hood Brick Co., B. Mifflin, Atlanta, Ga.

Fixtures. (Electric Lighting.)

Hill & Co., Walter E., Baltimore, Md.

Flanges. (Iron and Steel.)

American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Construction Co., Phila., Pa.
American Spiral Pipe Works, Chicago, Ill.
Dart Mfg. Co., E. M., Providence, R. I.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
National Tube Co., Pittsburgh, Pa.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Wood & Co., R. D., Philadelphia, Pa.

Flare Lamps.

Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

Flexible Joints.

Moran Flex. Steam Joint Co., Inc., Louisville, Ky.

Floor Tiles.

Northercross Mantel Co., W. J., Memphis, Tenn.

Flooring. (Crescoted Block.)

Republic Crescoting Co., Indianapolis, Ind.

Flooring. (Hardwood, Maple, Oak.)

Whiting, William S., Asheville, N. C.

Flour and Grist Mill Machinery and Supplies.

Caldwell & Sons Co., H. W., Chicago, Ill.
Salem Foundry & Machine Works, Salem, Va.
Starr Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Flue Lining.

Owensboro Sewer Pipe Co., Owensboro, Ky.
Southern Sewer Pipe Co., Birmingham, Ala.

Forges.

Buffalo Forge Co., Buffalo, N. Y.

Forgings.

Welmer Chain & Iron Co., Lebanon, Pa.

Foundations. (Waterproof.)

Requarth Co., O. W., Charlotte, N. C.

Foundry Equipment and Supplies.

Newport Sand Bank Co., Inc., Newport, Ky.
Paxson Co., J. W., Philadelphia, Pa.

Foundry Facings. (Talc and Soapstones.)

Georgia Talc Co., Asheville, N. C.

Foundry and Machine Shops.

Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Golden Foundry & Machine Wks., Columbus, Ga.
Grainier & Co., Louisville, Ky.
Lombard Iron Works, Augusta, Ga.
Pools Eng. & Mach. Co., Baltimore, Md.
Titus, E. E., Petersburg, Va.
Valk & Murdoch Iron Works, Charleston, S. C.

Frogs. [See Railroad Frogs and Switches.]

Fuel Economizer.

Green Fuel Economizer Co., Matteawan, N. Y.

Fuel Oil.

Gulf Refining Co., Pittsburgh, Pa.
U. S. Asphalt Refining Co., New York, N. Y.

Furnaces. (For Industrial Purposes.)

Smythe Co., The, S. R., Pittsburgh, Pa.

Fuses. (Electrical.)

Economy Fuse & Mfg. Co., Chicago, Ill.

Fuse Shells. (Renewable.)

Economy Fuse & Mfg. Co., Chicago, Ill.

Fuses, Bases and Fittings.

John-Manville Co., H. W., New York, N. Y.

Galvanized Steel and Iron.

American Sheet & Tin Plate Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
McCalla, Inc., Harold, Philadelphia, Pa.
Portsmouth Steel Co., Portsmouth, O.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Garage and House. (Portable.)

Dixie Oilvert & Metal Co., Atlanta, Ga.

Gas Blowers. (Turbine.)

Terry Steam Turbine Co., Hartford, Conn.

Gas Engines. [See Engines, Gas.]

Gas Machines.

Kemp Mfg. Co., O. M., Baltimore, Md.
Milburn Co., Alex. N., Baltimore, Md.

Gas Plants.

Power & Mining Machinery Co., Gudnah, Wis.
Western Gas Construction Co., Ft. Wayne, Ind.

Gas Producers.

Otto Gas Engine Works, Philadelphia, Pa.
Smythe Co., The, S. R., Pittsburgh, Pa.
Westinghouse Machine Co., Pittsburgh, Pa.
Wood & Co., R. D., Philadelphia, Pa.

Gasoline and Kerosene.

Gulf Refining Co., Pittsburgh, Pa.

Gas and Steam Fitters' Tools.

Saunders' Sons, D., Yonkers, N. Y.

Gears.

Caldwell & Sons Co., H. W., Chicago, Ill.
Crescon-Morris Co., Philadelphia, Pa.
James Mfg. Co., D. O., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Pools Engineering & Machine Co., Baltimore, Md.

Generating Sets.

Engberg Electric & Mechanical Works, St. Joseph, Mo.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Triumph Electric Co., Cincinnati, O.

Geologists.

Davis, Geo. C., Phila., Pa.
Frushing & Robertson, Richmond, Va.
Grimesley, G. P., Martinsburg, W. Va.

Glass. (Plate, etc.)

Binswanger & Co., Memphis, Tenn.

Governors. (Steam Engine.)

Pickering Governor Co., Portland, Conn.

Grain Elevator Supplies.

Caldwell & Sons Co., H. W., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Nictown (Philadelphia), Pa.

Granite.

Southern Marble & Granite Co., Spartansburg, S. C.

Graphite.

Dixon Crucible Co., Joseph, Jersey City, N. J.

Grates and Grate Bars.

Huber Grate Bar & Stoking Co., Baltimore, Md.
Thomas Grate Bar Co., Birmingham, Ala.

Gravel.

Arndel Sand & Gravel Co., Baltimore, Md.

Gravel. (Roofing and Road)

American Ballast Co., Knoxville, Tenn.

Gravity Spiral Chutes.

Mathews Gravity Carrier Co., Ellwood City, Pa.

Grease.

Albany Lubricating Co., New York, N. Y.

Grease Cups.

Albany Lubricating Co., New York, N. Y.
Lorenzheim Co., The, Cincinnati, O.

Greases and Lubricating Compounds.

Albany Lubricating Co., New York, N. Y.
Galena Signal Oil Co., Franklin, Pa.
Robinson & Son Co., Wm. C., Baltimore, Md.

Grinders. (Gypsum, Limestones, etc.)

Stedman's Foundry & Machine Wks., Aurora, Ind.

Grinding Wheels.

Carborandum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Groovers.

Huther Bros. Saw Mfg. Co., Inc., Rochester, N. Y.

Gunpowder.

Keystone National Powder Co., Emporium, Pa.

Hammers. (Steam, Power, Pneumatic)

Independent Pneumatic Tool Co., Chicago, Ill.

Handle Machinery. [See Woodworking Machinery.]

Hangers. [See Pulleys, Shafting and Hangers.]

Hay Tools.

Myers & Bro., F. E., Ashland, Ohio.

Industrial Track Work. [See Railways, Ind.]**Injectors.**

Jenkins Bros., New York, N. Y.
Lunkenheimer Co., The, Cincinnati, O.
Sellers & Co., Inc., Wm., Philadelphia, Pa.

Insulated Wire and Cables.

Safety Insulated Wire & Cable Co., New York, N. Y.

Insulating Materials.

Continental Fibre Co., Newark, Del.
General Electric Co., Schenectady, N. Y.
Johns-Manville Co., H. W., New York, N. Y.

Insurance.

Hartford Steam Boiler Inspector & Insurance Co., Hartford, Conn.

Iron.

Allegheny Steel Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
Union Iron Works, Los Angeles, Cal.
Wood Iron & Steel Co., Allentown, Pa.

Irrigation Machinery.

Cameron Steam Pump Wks., A. S., New York, N. Y.

Investment Securities.

Provident Savings Bank & Trust Co., Cincinnati, Ohio.

Kettles. (Steam Jacket.)

Badger & Sons Co., E. B., Boston, Mass.

Key Seater. (Portable.)

Hurr & Son, John T., Brooklyn, N. Y.

Knitting Machinery.

Acme Knitting Mach. & Needle Co., Franklin, N. H.

Labor Agency.

Diamond Labor Agency, Chicago, Ill.

Lace Leather.

Graton & Knight Mfg. Co., Worcester, Mass.

Lamps. (Arc and Incandescent.)

Boston-Economy Lamp Division, Danvers, Mass.
General Electric Co., Schenectady, N. Y.
Lee Electric Co., Baltimore, Md.
Piedmont Electric Co., Asheville, N. C.

Lamps. (Carbon and Tungsten.)

Newman Electric Lamp Co., Cincinnati, O.

Lamp Posts. (Electric, Gas.)

Union Foundry Co., Anniston, Ala.
Western Gas Construction Co., Ft. Wayne, Ind.

Lamp Standards. (Ornamental Iron.)

Union Foundry Co., Anniston, Ala.

Lands. (Mineral, Timber, Farm, etc.) [See Industrial, Agricultural and Commercial Opportunities.]**Landscape Architects [See Engineers.] [Landscape]****Lathes. (Engine.)**

Greaves, Kinsman Tool Co., The, Cincinnati, O.

Lawn Furniture. (Wire.)

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Dufur & Co., Baltimore, Md.
Dufur, Baggett & Co., Baltimore, Md.

Leadite.

Leadite Co., Inc., The, Philadelphia, Pa.

Letter Sealing Machinery.

Sealograph Co., Kansas City, Mo.

Lights. (Portable Acetylene.)

Milburn Co., Alex. N., Baltimore, Md.

Lime. (Hydrated.)

Security Cement & Lime Co., Hagerstown, Md.

Limestone Products.

Security Cement & Lime Co., Hagerstown, Md.

Liquor Filters.

International Filter Co., Chicago, Ill.

Lithographers, Engravers.

Young & Seiden Co., Baltimore, Md.

Lockers (Steel)

Harnstein Mfg. Co., Phila., Pa.
Keighley Metal Ceiling Mfg. Co., S., Pittsburgh, Pa.
Merritt & Co., Camden, N. J.
Van Hurlingen, J. M., Atlanta, Ga.

Locomotives.**INDUSTRIAL.**

Baldwin Locomotive Wks., The, Philadelphia, Pa.
Climax Mfg. Co., Corry, Pa.
Cord, Geo. B., Cincinnati, O.
Davenport Locomotive Works, Davenport, Ia.
Jeffrey Mfg. Co., Columbus, O.
Lima Locomotive Corporation, Lima, O.
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta, Ga.

RAILWAY.

Baldwin Locomotive Wks., The, Philadelphia, Pa.
Lima Locomotive Corporation, Lima, O.
Porter Co., H. K., Pittsburgh, Pa.

Looms and Weaving Machinery.

Draper Co., Hopedale, Mass.
Mason Machine Works, Taunton, Mass.
Saco-Lowell Shops, Boston, Mass.

Loom Harness.

American Supply Co., Providence, R. I.

Lubricants.

Albany Lubricating Co., New York, N. Y.
Otis Elevator Co., New York, N. Y.

Lubricants. (Graphite.)

Dixon Crucible Co., Joseph, Jersey City, N. J.

Lumber.

Industrial Lumber Co., Elizabeth, La.

Lumber. (Oresot.)

American Oresot Works, New Orleans, La.

Lumber. (Heavy Construction, Pitch Pine, etc.)

Industrial Lumber Co., Elizabeth, La.
National Lumber & Oresot Co., Texarkana, Ark.

Lumber Buggies.

Soule Steam Feed Works, Meridian, Miss.

Lumber Stackers.

Soule Steam Feed Works, Meridian, Miss.

Machinery. (Special.)

Bliss Co., E. W., Brooklyn, N. Y.
Kline, Lewis T., Alpena, Mich.
Universal Machine Co., Baltimore, Md.

Machinery and Supplies. (New and Second-Hand Hardware.)

Assets Purchasing Co., Wheeling, W. Va.
Bailey & James Boiler & Mch. Co., Joplin, Mo.
Boston Iron & Metal Co., Balto., Md.
Cleveland Belling & Machinery Co., Cleveland, O.
Consolidated Iron & Metal Co., Chattanooga, Tenn.
Dunais & Son, New York, N. Y.
Harris Bros. Co., Chicago, Ill.
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Jeffrey-Griner Machinery Co., Philadelphia, Pa.
Lehman, Charles T., Birmingham, Ala.
Lodge & Shipley Mach. Tool Co., Cincinnati, O.
Marine Metal & Supply Co., New York, N. Y.
Moore & Co., Edgar M., Pittsburgh, Pa.
New River Co., Macdonald, W. Va.
Nussbaum & Co., V. M., Fort Wayne, Ind.
Pannmuller Engineering Co., Chicago, Ill.
Power Equipment Co., New York, N. Y.
Prestise Tool & Supply Co., New York, N. Y.
Randle Machinery Co., Cincinnati, O.
Read Co., Howard W., Philadelphia, Pa.
Sachsenmaier & Co., George, Philadelphia, Pa.
Samuel, Frank, Philadelphia, Pa.
Seyfert's Sons, Inc., I. E., Philadelphia, Pa.
Southern Mchry. Exchange, Jacksonville, Fla.
South Side Fdry. & Mch. Co., Charleston, W. Va.
Tange Machinery Exchange, Tampa, Fla.
Toomey, Frank, Inc., Philadelphia, Pa.
Wilson Machy. Co., Harold, R., St. Louis, Mo.
Winterer Co., Herman L., Philadelphia, Pa.

Machine Tools.

Greaves, Kinsman Tool Co., The, Cincinnati, O.

Machinists. (Engineers.)

Savannah Iron Works, Savannah, Ga.
Universal Machine Co., Baltimore, Md.

Magnesia Materials.

Johns-Manville Co., H. W., New York, N. Y.

Magnetic Separators.

Buchanan & Co., Inc. C. G., New York, N. Y.
Paxson Co., J. W., Philadelphia, Pa.

Mail Chutes.

Outler Mail Chute Co., Rochester, N. Y.

Mantels. (Tile.)

Northcross Mantel Co., W. J., Memphis, Tenn.

Mantels. (Wooden.)

Northcross Mantel Co., W. J., Memphis, Tenn.

Mechanical Draft.

Buffalo Forge Co., Buffalo, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Metal Ceilings. [See Ceilings, Metal.]**Metaline.**

Metaline Co., Long Island City, N. Y.

Metal. (For Tanks, Culverts, Roofing, etc.)

Portsmouth Steel Co., Portsmouth, O.

Metal Culverts. [See Culverts.] (Corrugated Metal.)**Metal Shingles. [See Shingles.] (Metal.)****Metal Window Frames and Sash. [See Window Frames and Sash.] (Fireproof.)****Metal Work. [See Sheet Metal Work.]****Metal-Working Machinery. (Sheet.)**

Bliss Co., E. W., Brooklyn, N. Y.

Meters. (Water.)

Alberger Pump & Condenser Co., New York, N. Y.

Meter Boxes, Couplings, Gauges. (Water.)

Clark Co., H. W., Mattoon, Ill.

Micrometers, Calipers, etc.

Starrett Co., L. S., Athol, Mass.

Milk Filters. (Liquor, Milk, etc.)

International Filter Co., Chicago, Ill.

Mill Engineers and Architects.

O'Brian, W. C., Memphis, Tenn.
Syrine, J. E., Greenville, S. C.

Mill Supplies.

Bailey-Lobby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Gainesville Iron Works, Gainesville, Ga.
Lombard Iron Works, Augusta, Ga.
Lunkenheimer Co., The, Cincinnati, O.
Mecklenburg Iron Works, Charlotte, N. C.
Salem Foundry & Machine Wks., Salem, Va.
Star Co., H. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Mining Machinery. (Gold, Copper, Plate, etc.)

Hartlett & Snow Co., O. O., Cleveland, O.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Mecklenburg Iron Works, Charlotte, N. C.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Mixers. (Concrete.)

Bystone Mfg. Co., Cambridge Springs, Pa.
Standard Scale & Supply Co., Pittsburgh, Pa.
Van Duzen, Rye Co., The, Columbus, O.

Mixing Machinery.

Dunning, W. D., Syracuse, N. Y.

Mortar Colors.

Chattanooga Paint Co., Chattanooga, Tenn.

Motor Trucks. (Electric.)

General Vehicle Co., Long Island City, N. Y.

Motor Trucks. (Gasoline.)

White Co., The, Cleveland, O.

Motor Trucks. (Second Hand.)

Mar-Del Mobile Co., Baltimore, Md.

Music Wire.

American Steel & Wire Co., Chicago, Ill.

Waterbury Co., The, New York, N. Y.**Nails. (Cut.)**

La Belle Iron Works, Steubenville, O.

Nails and Spikes.

La Belle Iron Works, Steubenville, Ohio.
Republic Iron & Steel Co., Youngstown, O.
Youngstown Sheet & Tube Co., Youngstown, O.

Nuts. [See Bolts, Nuts, Rivets, etc.]**Office Furniture (Steel)**

Merritt & Co., Camden, N. J.

Oil. (Oresot.)

Barrett Mfg. Co., Philadelphia, Pa.

Oils. (Lubricating, Etc.)

Albany Lubricating Co., New York, N. Y.
Gulena Signal Oil Co., Franklin, Pa.
Gulf Refining Co., Pittsburgh, Pa.
Robinson & Son Co., Wm. C., Baltimore, Md.

Oil Cans.

Wall Mfg. Supply Co., F., Allegheny, Pa.

Oil Engines. [See Engines (Oil).]**Oil Separators.**

Stewart Heater Co., Buffalo, N. Y.

Oil Well Machinery.

Keystone Steam Well Mach. Co., Beaver Falls, Pa.
Williams Bros., Itasca, N. Y.

Oil Well Tubing and Casing.

Ryers Co., A. M., Pittsburgh, Pa.

Ore Handling Machinery. [See Coal Handling Machinery.]**Ornamental Iron Works.**

Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.
Cincinnati Mfg. Co., Cincinnati, O.
Dow Wire & Iron Works, Louisville, Ky.
Ohio Elevator & Mach. Co., The, Columbus, O.
Scriber & Sons Co., The L., Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.

Ovens. (Baking, Enameling, Japanning.)

Oven Equipment & Mfg. Co., The, New Haven, Conn.

Oxygen.

International Oxygen Co., New York, N. Y.

Oxygen Generators.

International Oxygen Co., New York, N. Y.

Oxy-Acetylene Welding and Cutting Outfit and Supplies.

International Oxygen Co., New York, N. Y.
Milburn Co., Alex. N., Baltimore, Md.

Packing. (Asbestos, Metallic, Rubber, Leather, etc.)

Graton & Knight Mfg. Co., Worcester, Mass.
Jenkins Bros., New York, N. Y.
Johns-Manville Co., H. W., New York, N. Y.
Power Specialty Co., New York, N. Y.
United Lead Co., New York, N. Y.

Packing. (Lead Wool.)

United Lead Co., New York, N. Y.

Paint. (Cement Floors, Masonry, Stucco, etc.)

Cheeman & Elliott, New York, N. Y.

Paint. (Metal Surfaces.)

Cheeman & Elliott, New York, N. Y.
Dixon Crucible Co., Joseph, Jersey City, N. J.

Paint. (Roofing, Building, etc.)

Cameron & Barkley Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
Cheeman & Elliott, New York, N. Y.

Paper. (Roofing, Building, Sheeting, etc.)

Barrett Mfg. Co., Philadelphia, Pa.
Cameron & Barkley Co., Charleston, S. C.

Partitions. (Wooden Rolling.)

Van Hurlingen, J. M., Atlanta, Ga.

Patents and Inventions.

Russell Machine Co., F. K., Dallas, Tex.

Patent Attorneys.

Brown, Eugene O., Washington, D. C.
Chandler & Chandler, Washington, D. C.
Coleman, Watson E., Washington, D. C.
Duffie & Co., John S., Washington, D. C.
Evans & Co., Victor J., Washington, D. C.
Fitzgerald & Co., W. T., Washington, D. C.
Hodges, Vernon E., Washington, D. C.
Jensen, Herbert, Washington, D. C.
Lacey, R. S. & A. R., Washington, D. C.
McLaudie, A. S., Chattanooga, Tenn.

Pavement Filler.

Harrett Mfg. Co., Philadelphia, Pa.

Paving Blocks. (Oresot.)

International Oresot & Construction Co., Galveston, Tex.

National Lumber & Oresot Co., Texarkana, Ark.**Republic Oresot Co., Indianapolis, Ind.****Southern Oresot Co., Ltd., Slidell, La.****Southern Wood Preserving Co., Atlanta, Ga.****U. S. Wood Preserving Co., New York, N. Y.****Wyckoff Pipe & Oresot Co., Inc., The, New York, N. Y.****Paving Blocks. (Granite.)**

Southern Marble & Granite Co., The, Sparta, N. C.

Paving Brick.

Adamantine Clay Products Co., North Mountain, W. Va.
Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Ingis Shale Brick Co., Birm'gh'm, Ala.
Dunn Wire-Cut-Lug Brick Co., Cincinnati, Ohio
Southern Clay Mfg. Co., Chattanooga, Tenn.
Standard Brick Co., Macon, Ga.

Perforated Metal.

Caldwell & Son, H. W., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Hendricks Mfg. Co., The, Carbondale, Pa.
Manhattan Perforated Metal Co., New York, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.

Petroleum Refiners.

Gulf Refining Co., Pittsburgh, Pa.
Standard Oil Co., Inc., Newark, N. J.

Phosphate Machinery.

Aising Engineering Co., J. R., New York, N. Y.
American Process Co., New York, N. Y.
Bailey-Lobby Co., The, Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Link Belt Co., Nickerson (Philadelphia), Pa.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Impact Pulv. Co., Chicago, Ill.
Valk & Murdoch Iron Works, Charleston, S. C.

Pig Iron.

La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.

Pile Drivers.

Volcan Iron Works, Chicago, Ill.

Piling. (Oresot.)

American Oresot Works, New Orleans, La.
Intern'l Oresot & Const. Co., Galveston, Tex.
Southern Oresot Co., Ltd., Slidell, La.

Pillow Blocks.

Golden's Foundry & Machine Co., Columbus, Ga.

Pipe.

Allegheny Steel Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, Ohio.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Pipe. (Cast Iron.)

American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Construction Co., Phila., Pa.

Clow & Sons, James B., Chicago, Ill.

Donaldson Iron Co., Emaus, Pa.
Glanorgan Pipe & Foundry Co., Lynchburg, Va.
Greenough's Sons Iron & Steel Co., Jos., St. Louis, Mo.
Lynchburg Foundry Co., Lynchburg, Va.
Massillon Iron & Steel Co., Massillon, O.
Standard Cast Iron Pipe & Fdry. Co., Bristol, Pa.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Warren Fdry. & Mach. Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.

Pipe. (Cast.)

Frick Co., The, Waynesboro, Pa.
National Pipe Hending Co., New Haven, Conn.
York Mfg. Co., York, Pa.

Pipe. (Corrugated Culvert.) [See Culvert (Corrugated Metal).]

CLASSIFIED INDEX OF ADVERTISEMENTS.

Pulleys, Shuffling and Hangers.

Caldwell & Son Co., H. W., Chicago, Ill.
Crescent-Morris Co., Philadelphia, Pa.
Dodge Manufacturing Co., Milwaukee, Ind.
Golden's Foundry & Mach. Co., Columbus, Ga.
Jeffrey Mfg. Co., Columbus, O.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lane Mfg. Co., Montpelier, Vt.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Poole Engineering & Mach. Co., Baltimore, Md.
Wood's Sons Co., T. B., Chambersburg, Pa.

Pulverizers.

Alsting Engineering Co., J. R., New York, N. Y.
Austin Mfg. Co., Chicago, Ill.
Gruendler Pat. Crusher & Pulv. Co., St. Louis, Missouri.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Bros., Impact Pulv. Co., Chicago, Ill.
Stedman's Foundry & Machine Wks., Aurora, Ind.
Western Wheel Scraper Co., Aurora, Ill.

Pumping Machinery.

Affiliated Manufacturers Co., Milwaukee, Wis.
Alberger Pump & Condenser Co., New York, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Erie Pump & Engine Works, Erie, Pa.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Morris Machine Works, Baldwinville, N. Y.
Myers & Bros., F. E., Ashland, O.
Sydnor Pump & Well Co., Inc., Richmond, Va.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, Henry R., Harrison, N. J.

Pumps. (Air.)

Blakeslee Mfg. Co., Du Quoin, Ill.

Pumps. (Boiler Feed.)

Alberger Pump & Condenser Co., New York, N. Y.
Blakeslee Mfg. Co., Du Quoin, Ill.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Jeanesville Iron Works Co., Hazleton, Pa.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Myers & Bros., F. E., Ashland, O.

Pumps. (Centrifugal.)

Alberger Pump & Condenser Co., New York, N. Y.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Erie Pump & Engine Works, Erie, Pa.
Holland Machine Co., New York, N. Y.
Jeanesville Iron Works Co., Hazleton, Pa.
Morris Machine Works, Baldwinville, N. Y.
Pacific Flush Tank Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, Henry R., Harrison, N. J.

Pumps. (Deep Well.)

Cameron Steam Pump Wks., A. S., New York, N. Y.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Layne & Bowler Co., Houston, Tex.

Pumps. (Dredging.)

Buffalo Steam Pump Works, Buffalo, N. Y.
Dean Bros. Steam Pump Works, Indianapolis, Ind.
Erie Pump & Engine Works, Erie, Pa.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Mch. Co., New York, N. Y.
Morris Machine Works, Baldwinville, N. Y.
Wood & Co., R. D., Phila., Pa.

Pumps. (Hydraulic.)

Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cardwell Machine Co., Richmond, Va.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Erie Pump & Engine Works, Erie, Pa.
French Oil Mill Mchry. Co., The Piqua, O.
Holland Mch. Co., New York, N. Y.

Pumps. (Oil and Gasoline.)

Keystone Boiler & Fdry. Co., Columbia, Pa.

Pumps. (Steam.)

Alberger Pump & Condenser Co., New York, N. Y.
Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Blakeslee Mfg. Co., Du Quoin, Ill.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Clayton Air Compressor Works, Cambridge, Mass.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Fairbanks-Morse & Co., Atlanta, Ga.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Murray Iron Works Co., Burlington, Ia.
Scranton Pump Co., Scranton, Pa.
Snow Steam Pump Works, The New York, N. Y.
Sydnor Pump & Well Co., Inc., Richmond, Va.
Worthington, Henry R., Harrison, N. J.

Pumps. (Trench.)

Affiliated Manufacturers Co., Milwaukee, Wis.

Pumps. (Turbine Driven.)

Startevant Co., B. F., Hyde Park, Boston, Mass.

Pumps. (Vacuum.)

Cameron Steam Pump Wks., A. S., New York, N. Y.

Pumps. (Water-works.)

Goulds Mfg. Co., Seneca Falls, N. Y.

Pump Leathers.

Graton & Knight Mfg. Co., Worcester, Mass.

Punching and Shearing Machinery.

Bliss Co., E. W., Brooklyn, N. Y.

Purchasing Agents.

U. S. Purchasing Corporation, New York, N. Y.

Racks (For Pattern Storage.)

Merritt & Co., Camden, N. J.

Railroads. [See Industrial, Agricultural and Commercial Opportunities.]

Railroad Equipment and Supplies. (New and Second-hand.)

American Frog & Switch Co., Hamilton, O.
Bailey-Lobby Co., The, Charleston, S. C.
Birmingham Rail & Loco. Co., Birmingham, Ala.
Cincinnati Frog & Switch Co., Cincinnati, O.
Cord, Geo. H., Cincinnati, O.
Fairbanks-Morse & Co., Atlanta, Ga.
Foster Co., L. B., Pittsburgh, Pa.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hirsch Rolling Mill Co., St. Louis, Mo.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Hyde, Chas., Pittsburgh, Pa.
Kilby Frog & Switch Co., Birmingham, Ala.
Macleary, J. H., Suffolk, Va.
National Steel Rail Co., St. Louis, Mo.
Newhall Eng. Co., Geo. M., Philadelphia, Pa.
Read Co., Howard, W., Philadelphia, Pa.
Robinson & Orr, Pittsburgh, Pa.
Sherwood, E. O., New York, N. Y.

Southern Iron & Equipment Co., Atlanta, Ga.
Steel Rail Supply Co., The, New York, N. Y.
United States Rail Co., Cumberland, Md.
Weir Frog Co., Cincinnati, O.
Wilson & Co., E. H., Philadelphia, Pa.
Wilson Mach. Co., Harold R., St. Louis, Mo.
Zelnicke Supply Co., Walter A., St. Louis, Mo.

Railroad Frogs & Switches.

American Frog & Switch Co., Hamilton, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Conley Frog & Switch Co., Memphis, Tenn.
Kilby Frog & Switch Co., Birmingham, Ala.
Newhall Engineering Co., Geo. M., Philadelphia, Pa.
Robinson & Orr, Pittsburgh, Pa.
Sweet's Steel Co., Williamsport, Pa.
Weir Frog Co., Cincinnati, O.

Rails. (Steel.)

Foster Co., L. B., Pittsburgh, Pa.
Frank, J. E., Atlanta, Ga.
Gulf States Steel Co., Birmingham, Ala.
Hirsch Rolling Mill Co., St. Louis, Mo.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Hyde, Chas., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Levis & Co., Henry, Philadelphia, Pa.
Macleary, J. H., Suffolk, Va.
National Steel Rail Co., St. Louis, Mo.
Newhall Eng. Co., Geo. M., Philadelphia, Pa.
Republic Iron & Steel Co., Youngstown, O.
Robinson & Orr, Pittsburgh, Pa.
Sherwood, E. O., New York, N. Y.
Southern Iron & Equipment Co., Atlanta, Ga.
Steel Rail Supply Co., The, New York, N. Y.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & R. R. Co., B'm'gh'm, Ala.
United States Rail Co., Cumberland, Md.
Wilson & Co., E. H., Philadelphia, Pa.

Rail Braces, Crossings, etc. [See R. R. Frogs and Switches.]

Railings and Grilles. (Brass.)

Newman Mfg. Co., Cincinnati, O.

Railways. (Industrial.)

Chase Fdry. & Mfg. Co., Columbus, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Hunt Co., Inc., C. W., West New Brighton, N. Y.
Link-Belt Co., Nicetown (Philadelphia), Pa.

Rams. (Hydraulic.) [See Hydraulic Ram.]

Reamers.

Morse Twist Drill & Mch. Co., New Bedford, Mass.

Reeds.

American Supply Co., Providence, R. I.

Refrigerating Machinery and Apparatus.

Huettner & Cramer Co., The, Detroit, Mich.
Remington Machine Co., Wilmington, Del.
Vilter Mfg. Co., Milwaukee, Wis.
Vogt Machine Co., Henry, Louisville, Ky.
York Mfg. Co., York, Pa.

Reinforcing Bars. [See Concrete Reinforcing Bars.]

Riveters. (Pneumatic.)

Independent Pneumatic Tool Co., Chicago, Ill.

Road Machinery.

Austin-Western Road Mchry. Co., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Erie Machine Shops, Erie, Pa.
Gallon Iron Works & Mfg. Co., The, Gallon, Ohio.
Hull Manufacturing Co., The, Peoria, Ill.
Huber Mfg. Co., The, Marion, Ohio.
Kelly Springfield Road Roller Co., Springfield, O.
Universal Road Mchry. Co., Kingston, N. Y.
Western Wheel Scraper Co., Aurora, Ill.
Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Roadmaking Materials.

Barrett Mfg. Co., Philadelphia, Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Binders

Barrett Mfg. Co., Phila., Pa.
Standard Oil Co., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Roller. (Steam.)

Austin-Western Road Mchry. Co., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Erie Machine Shops, Erie, Pa.
Huber Mfg. Co., The, Marion, Ohio.
Kelly Springfield Road Roller Co., Springfield, O.
Universal Road Mchry. Co., Kingston, N. Y.

Road Oil.

Gulf Refining Co., Pittsburg, Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Preservatives.

Barrett Mfg. Co., Philadelphia, Pa.
Gulf Refining Co., Pittsburg, Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Scarifiers.

Buffalo Steam Roller Co., Buffalo, N. Y.
Gallon Iron Works & Mfg. Co., The, Gallon, Ohio.
Huber Mfg. Co., The, Marion, Ohio.

Rock Crushers. [See Crushers, Rock.]

Roller Covering Supplies.

American Supply Co., Providence, R. I.

Roofing. (Ready Prepared: Felt, Tar, Asbestos, Asphalt.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Asbestos Protected Metal Co., Beaver Falls, Pa.
Asphalt Ready Roofing Co., New York, N. Y.
Barrett Mfg. Co., Philadelphia, Pa.
Cameron & Barkley Co., Charleston, S. C.
Chesapeake Roofing & Pipe Covering Co., Baltimore, Md.
John-Manville Co., H. W., New York, N. Y.

Roofing. (Metal Shingles.) [See Shingles, Metal.]

Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The, Cincinnati, O.

Roofing. (Slate.)

East Bangor Consol. Slate Co., East Bangor, Pa.
Genuine Bangor Slate Co., Easton, Pa.
Johnson, E. J., New York, N. Y.

Roofing and Siding. (Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Asbestos Protected Metal Co., Beaver Falls, Pa.
Cameron & Barkley Co., Charleston, S. C.
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The, Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Portsmouth Steel Co., Portsmouth, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Tennessee Metal Culvert Co., Nashville, Tenn.
Youngstown Sheet & Tube Co., Youngstown, O.

Rope. (Manila, Sisal, Hemp, etc.)

Broderick & Bascom Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.

Rope. (Wire.)
Broderick & Bascom Rope Co., St. Louis, Mo.
Hunt Co., Inc., C. W., West New Brighton, N. Y.
Waterbury Co., New York, N. Y.

Rope Drives.

Caldwell & Son, H. W., Chicago, Ill.
Crescent-Morris Co., Philadelphia, Pa.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.

Rubber Goods.

Electric Hose & Rubber Co., Wilmington, Del.
Eureka Fire Hose Mfg. Co., New York, N. Y.

Rules. (Steel.)

Luffkin Rule Co., Saginaw, Mich.
Starrett Co., L. S., Athol, Mass.

Sales and Vaults.

York Safe & Lock Co., York, Pa.

Sand.

Arundel Sand & Gravel Co., Baltimore, Md.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.

Sand. (Foundry.)

Newport Sand Bank Co., Inc., Newport, Ky.

Sap Stain Preventive.

Church & Dwight Co., New York, N. Y.

Sash Chain.

Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.

Saws.

Gerlach Co., Peter, Cleveland, O.
Hutter Bros. Saw Mfg. Co., Inc., Rochester, N. Y.
Smith Machine Co., H. B., Smithville, N. J.
Sydnor Pump & Well Co., Inc., Richmond, Va.

Saws. (Hand.)

Smith Machine Co., H. B., Smithville, N. J.

Saws. (Hack.)

Starrett Co., L. S., Athol, Mass.

Sawmill Dogs.

Soule Steam Feed Works, Meridian, Miss.

Sawmills.

Gainesville Iron Works, Gainesville, Ga.
Gibbes Machinery Co., Inc., Columbia, S. C.
Knight Mfg. Co., Canton, O.
Lane Mfg. Co., Montpelier, Vt.

Sawmill Machinery.

Bailey-Lobby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Chase Turbine Mfg. Co., Orange, Mass.
Knight Mfg. Co., Canton, O.
Lane Mfg. Co., Montpelier, Vt.
Mecklenburg Iron Works, Charlotte, N. C.
Schofield Iron Works, Macon, Ga.
Southern Engine & Boiler Wks., Jackson, Tenn.
Sydnor Pump & Well Co., Inc., Richmond, Va.

Saw Sharpeners.

Carborundum Co., Niagara Falls, N. Y.
Vitified Wheel Co., Westfield, Mass.

Saw Sharpeners and Files. (Cotton Gin.)

Carver Cotton Gin Co., East Bridgewater, Mass.

Sawing Outfits. (Contractors and Industrial.)

Rutland Foundry & Machine Co., Bennington, Vt.

Scales.

Standard Scale & Supply Co., Pittsburgh, Pa.

Screens. (Fly, Window and Door.)

Cincinnati Mfg. Co., Cincinnati, O.

Screens. (Mining, Stone, etc.)

Converse Co., Inc., F. S., Lestershire, N. Y.
Erdie Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Mundt & Sons, Charles, Jersey City, N. J.
New Jersey Wire Cloth Co., Trenton, N. J.

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Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Mundt & Sons, Charles, Jersey City, N. J.
New Jersey Wire Cloth Co., Trenton, N. J.

Screens. (Fly, Window and Door.)

Cincinnati Mfg. Co., Cincinnati, O.

Screens. (Mining, Stone, etc.)

Converse Co., Inc., F. S., Lestershire, N. Y.
Erdie Perfor

Steel. (Tool.)

Bourne-Fuller Co., The, Cleveland, Ohio.
McKenna Bros., Brass Co., Pittsburgh, Pa.
Union Drawn Steel Co., Beaver Falls, Pa.

Steel. (Vanadium.)

Union Drawn Steel Co., Beaver Falls, Pa.

Steel Buildings. (Designers, Builders.)

Amor, Bridge Co. of New York, N. Y.
Beimont Iron Works, Philadelphia, Pa.
Champion Bridge Co., Wilmington, O.
Chesapeake Iron Works, Baltimore, Md.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Phoenix Iron Co., Philadelphia, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Richmond Structural Steel Co., Richmond, Va.
Schreiber & Sons Co., The, Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.
Turner, C. A. F., Minneapolis, Minn.
Virginia Bridge & Iron Co., Roanoke, Va.

Steel Castings.

Dracible Steel Castings Co., Lansdowne, Pa.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Riverside Steel Casting Co., Newark, N. J.

Steel Plate Work.

Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Cottleville Boiler Works, Cottleville, Pa.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Memphis Steel Construction Co., Memphis, Tenn.
Phoenix Iron Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.

Steel Protector. (Concrete Curb, Steps, etc.)

[See Curb Protector Steel.]

Steel Sheet Piling.

Franks, J. E., Atlanta, Ga.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.

Stencils.

Baltimore Office Supply Co., Baltimore, Md.

Stills. (Turpentine.)

McMillan Bros., Jacksonville, Fla.

Stirrups. (Building.)

Chesapeake Iron Works, Baltimore, Md.

Stock Certificates, Bonds and Seals.

Baltimore Office Supply Co., Baltimore, Md.

Stock Room Racks, Bins, Etc.

Merritt & Co., Camden, N. J.

Stokers. (Band.)

Huber Grate Bar & Stoking Co., Baltimore, Md.

Stokers. (Mechanical.)

Rabcock & Wilcox Co., New York, N. Y.
Westinghouse Machine Co., Pittsburgh, Pa.

Stone. (Building.)

Atlantic Stone Co., Atlanta, Ga.
Bedford Steam Stone Works, Bedford, Ind.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.

Stone. (Crushed.) [See Crushed Stone.]**Stone and Gravel Plants.**

Weller Mfg. Co., Chicago, Ill.

Storage Batteries.

Elec. Storage Battery Co., The, Philadelphia, Pa.
Westinghouse Machine Co., Pittsburgh, Pa.

Strapping Leather.

Graton & Knight Mfg. Co., Worcester, Mass.

Structural Steel and Iron.

Allegheny Steel Co., Pittsburgh, Pa.
Amor, Bridge Co. of New York, N. Y.
Beimont Iron Works, Philadelphia, Pa.
Bourne-Fuller Co., The, Cleveland, Ohio
Champion Bridge Co., Wilmington, O.
Chesapeake Iron Works, Baltimore, Md.
Chicago Bridge & Iron Works, Chicago, Ill.
Cincinnati Iron & Steel Co., Cincinnati, O.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Dietrich Bros., Baltimore, Md.
East St. Louis Bridge Co., East St. Louis, Ill.
Grainger & Co., Louisville, Ky.
Greengrass's Sons Iron & Steel Co., Jos., St. Louis, Mo.
Hoffman & Co., Inc., R. O., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Oregon Bridge Co., Lebanon, Ohio.
Memphis Steel Construction Co., Memphis, Tenn.
Phoenix Iron Co., Philadelphia, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Republic Iron & Steel Co., Youngstown, O.
Richmond Structural Steel Co., Richmond, Va.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.
Schreiber & Sons Co., The, Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Savannah Steel Products Co., Savannah, Ga.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.

Stump Pullers.

Zimmerman Steel Co., Lone Tree, Iowa

Sulphur.

Union Sulphur Co., New York, N. Y.

Super-Heaters. (Steam.)

Rabcock & Wilcox Co., New York, N. Y.
Power Specialty Co., New York, N. Y.

Surveying Instruments.

Weber & Co., F., Philadelphia, Pa.

Swinging Engines.

Duke Engine Co., Grand Haven, Mich.

Switchboards, Switches, etc.

General Electric Co., Schenectady, N. Y.

Switches. [See Railroad Frogs and Switches.]**Switchstands.**

Weir Frog Co., Cincinnati, O.

Tackle Blocks. (For Wire or Manila Rope.)

Broderick & Bascom Rope Co., St. Louis, Mo.

Talc and Soapstone Powders.

Georgia Talc Co., Ashville, N. C.

Tanks. (Iron and Steel.)

American Bridge Co., New York, N. Y.
American Water Softener Co., Philadelphia, Pa.
Caldwell Co., Inc., W. E., Louisville, Ky.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Cottleville Boiler Works, Cottleville, Pa.
Cole Mfg. Co., R. D., Newnan, Ga.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Dixie Culvert & Metal Co., Atlanta, Ga.
Harry Bros. Co., Newport, Ky.
Hartley Boiler Works, Montgomery, Ala.
Hendricks Mfg. Co., Carbondale, Pa.
Kester Co., E., Williamsport, Pa.
Keystone Boiler & Foundry Co., Columbia, Pa.
Lombard Iron Works, Augusta, Ga.
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.
Memphis Steel Construction Co., Memphis, Tenn.

New York Central Iron Wks. Co., Hagerstown, Md.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schaffeld Iron Works, Macon, Ga.
Struthers-Wells Co., Warren, Pa.
Sydnor Pump & Well Co., Inc., Richmond, Va.
Tennessee Metal Culvert Co., Nashville, Tenn.
Twin City Boiler Works, Bristol, Va.-Tenn.
Virginia Bridge & Iron Co., Roanoke, Va.
Walsh & Weidner Boiler Co., Chattanooga, Tenn.

Tanks. (Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.
Sydnor Pump & Well Co., Inc., Richmond, Va.

Tapes. (Measuring.)

Lufkin Rule Co., Saginaw, Mich.
Starrett Co., L. S., Athol, Mass.

Telephones. (Supplies, Equipment.)

Piedmont Electric Co., Asheville, N. C.
Western Electric Co., New York, N. Y.

Telephone Service.

American Telephone & Telegraph Co.

Tenoner. (Box and Crate.)

Chase Turbine Mfg. Co., Orange, Mass.

Terra-Cotta. (Ornamental.)

Atlanta Terra-Cotta Co., Atlanta, Ga.
Maryland Terra-Cotta Co., Baltimore, Md.
Pomona Terra-Cotta Co., Pomona, N. C.
Southern Building Material Co., Norfolk, Va.
Stevens' Sons Co., H., Macon, Ga.

Threshers.

Cardwell Machine Co., Richmond, Va.

Tiering Machines. (Portable.)

Economy Engineering Co., Chicago, Ill.

Tile (Drain)

Gray Concrete Co., Thomasville, N. C.
Oconee Brick & Tile Co., Milledgeville, Ga.

Tile (Interior)

Amer. Enam. Brick & Tile Co., New York, N. Y.
P & F Tile Co., Birmingham, Ala.

Tile. (Mantel and Promenade.)

Hood Brick Co., B. Midlin, Atlanta, Ga.

Tile (Structural)

Oconee Brick & Tile Co., Milledgeville, Ga.

Important Information For Advertisers in Manufacturers Record

Publication day—Every Thursday.
Advertising copy not requiring proof must reach us one week in advance of publication day.
When proof is required, two weeks in advance.
Width of column, 2 1/4 inches; length, 13 inches.
Four columns to page.

TYPOGRAPHICAL ARRANGEMENT

We desire to use, as far as possible, uniform display type and borders and avoid the use of black background cuts. The uniform border is two-point plain rule for all spaces less than a full page.

Copy for advertisements other than those to be used in special departments should be prepared for two-column measure for spaces less than a quarter page; for a quarter page or larger, in two or four columns.

Timbers. (Creosoted.)

American Creosote Works, New Orleans, La.
Republic Creosoting Co., Indianapolis, Ind.

Tin and Terne Plates.

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Tobacco Machinery.

Buckeye Iron & Brass Works, Dayton, O.
Cardwell Machine Co., Richmond, Va.

Tools. (Machinists.)

Holland Mfg. Co., Erie, Pa.
Morse Twist Drill & Mch. Co., New Bedford, Mass.

Tools. (Mechanical.)

Starrett Co., L. S., Athol, Mass.

Tools. Pneumatic.

Chicago Pneumatic Tool Co., Chicago, Ill.
Independent Pneumatic Tool Co., Chicago, Ill.

Tools. (Tinner's.)

Danzer Metal Works, Hagerstown, Md.

Torches.

Wall Mfg. Supply Co., P., Allegheny, Pa.

Towers. (Electric Transmission.)

American Bridge Co. of New York, N. Y.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.

Towers. (Steel and Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Cole Mfg. Co., R. D., Newnan, Ga.
Columbia Pump & Well Co., Washington, D. C.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Memphis Steel Const. Co., Memphis, Tenn.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Track Material. (Steam & Industrial Railroads.)

Conley Frog & Switch Co., Memphis, Tenn.
Upson Nut Co., Cleveland, O.

Traction Engines.

Fairbanks-Morse & Co., Atlanta, Ga.
Heer Engine Co., Portsmouth, O.
Holt Mfg. Co., The, Peoria, Ill.
Huber Mfg. Co., The, Marion, O.

Tramway. (Overhead.)

Amburn Co. (Tramway Department), New York, N. Y.

Tramways. (Portable.)

Amburn Co. (Tramway Department), New York, N. Y.

Tramway. (Wire Rope)

Amburn Co. (Tramway Department), New York, N. Y.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo.
Caldwell & Sons Co., H. W., Chicago, Ill.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Waterbury Co., New York, N. Y.

Transformers.

Crocker-Wheeler Co., Ampere, N. J.
Triumph Electric Co., Cincinnati, O.

Trench Excavator. [See Excavator (Trench)]**Trucks. (Dry Kill.)**

Moore Dry Kill Co., L., Jacksonville, Fla.

Trucks. (Platform, Freight, Mill, Factory, etc.)

Bernstein Mfg. Co., Phila., Pa.
Chase Fdry. & Mfg. Co., Columbus, O.

Trucks. (Storage Battery Auto.)

Westinghouse Machine Co., Pittsburgh, Pa.

Trucks (Storage Battery) [For Warehouses & Industrial Plants]

Elwell Parker Electric Co., The, New York, N. Y.

Trust Companies. [See Bankers and Brokers.]**Tubes. (House.)**

Allegheny Steel Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
National Tube Co., Pittsburgh, Pa.

Tubing.

La Belle Iron Works, Steubenville, O.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Turbines. (Hydraulic.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Davis Foundry & Machine Wks., Rome, Ga.
Lefel & Co., James, Springfield, O.
Pools Engineering & Mach. Co., Baltimore, Md.
Salem Foundry & Machine Wks., Salem, Va.
Smith Co., S. Morgan, York, Pa.

Turbines. (Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Terry Steam Turbine Co., Hartford, Conn.
Western Electric Co., New York, N. Y.
Westinghouse Machine Co., Pittsburgh, Pa.

Turn Buckies.

Broderick & Bascom Rope Co., St. Louis, Mo.

Washers. (Ore and Phosphate.)

Bailey-Lobby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

Washers and Rivets. [See Bolts, Nuts, Rivets, Studs and Washers.]**Watchman's Clocks.**

Watchman's Clock & Supply Co., New York, N. Y.

Water Filters. (See Filters, Water, etc.)**Waterproofing. (For Brick Work.)**

Barrett Mfg. Co., Philadelphia, Pa.
McCormick Waterproof Portland Cement Co., St. Louis, Mo.

Waterproofing. (For Concrete.)

Barrett Mfg. Co., Philadelphia, Pa.
Johns-Manville Co., H. V., New York, N. Y.
McCormick Waterproof Portland Cement Co., St. Louis, Mo.

Water-Softening Apparatus. (Purifying.)

American Water Softener Co., Philadelphia, Pa.
International Filter Co., Chicago, Ill.

Water-Wheels. [See Turbines. (Hydraulic.)]**Water-Works Construction.**

Berry-Fortune Const. Co., Eatonton, Ga.

Water-Works Supplies and Appliances.

Allen-Scales Engineering Co., Nashville, Tenn.
American Water Pipe Co., Birmingham, Ala.
American Pipe & Constr. Co., Philadelphia, Pa.
Bourbon Copper & Brass Wks. Co., Cincinnati, O.
Clark Co., H. W., Mattoon, Ill.

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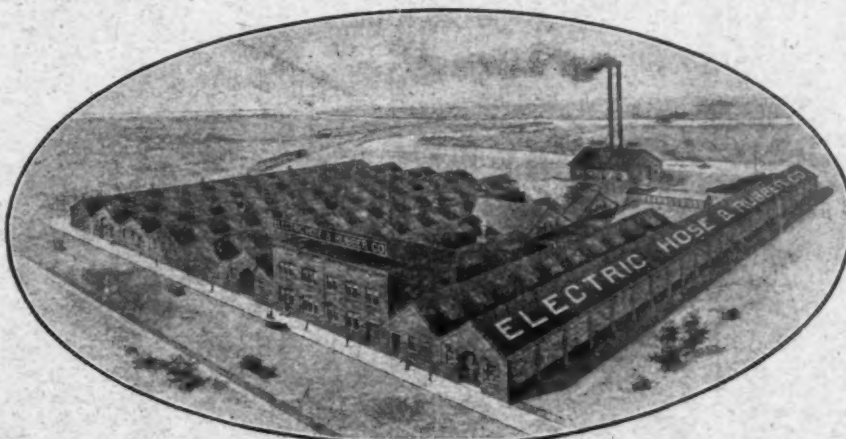
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